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ABSTRACT

Thirty-one Minnesota public libraries were studied to determine the best use of state funds to promote library development. The overall objective of this study was to determine the most effective organizational structure, appropriate standards of operation, and a program of financial support for public libraries in Minnesota. An analysis was made of current costs of library services, and with these costs as a basis, models were developed and estimates made for raising the current levels of service. Public library services were divided into three areas of study: provision of materials, information and services, and administrative and support services. Recommendations for the attainment of future needs and a plan for action were submitted. Statistical tables are appended. (DS)

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FINAL REPORT

A STUDY OF MINNESOTA PUBLIC LIBRARY SERVICES: COSTS AND IMPLICATIONS

Submitted to:

State of Minnesota
Department of Education
Office of Public Libraries and Interlibrary Cooperation
Capitol Square, 550 Cedar Street
St. Paul, Minnesota 55101

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TABLE OF CONTENTS

Chapter		Page
	ACKNOWLEDGEMENTS	vi
1	SUMMARY	1-1
2	MINNESOTA PUBLIC LIBRARIES	2-1
	2.1 Introduction	2-1
	2.2 The History of Minnesota Library Service	2-2
	2.3 Basic Statistics	2-3
	2.4 Current Problems	2-5
	2.5 Study Overview	2-8
3	COST OF LIBRARY SERVICES	3-1
	3.1 Development of Service Categories	3-2
	3.2 Cost Methodology	3-14
	3.3 Survey Methodology	3-21
	3.4 The Costs of Services	3-23
4	MEETING FUTURE NEEDS	4-1
	4.1 Organization of Library Service in Minnesota	4-1
	4.2 Comparing Levels of Service in Minnesota Libraries in 1973: Meeting Proposed Standards	4-7
	4.3 Funding of Public Libraries	4-14
	4.4 Equalization of Services	4-36
	4.5 The Future Role of OPLIC	4-59
5	A PLAN FOR ACTION	5-1
	5.1 Recommendations	5-1
	5.2 Schedule for Implementation	5-5
	5.2 Estimated Funding Requirements	5-6
	BIBLIOGRAPHY	
APPENDICES		
A	SURVEY METHODOLOGY	A-1
B	DEFINITIONS AND COMPUTATIONAL TECHNIQUES FOR INDIVIDUAL SERVICES	B-1
C	INDIVIDUAL LIBRARY COSTS	C-1

LIST OF TABLES

Table		Page
2-1	Minnesota Public Library Statistics, 1973.....	2-4
2-2	Minnesota Population Statistics, 1970.....	2-6
3-1	Direct and Indirect Costs of Circulation.....	3-20
3-2	Universe and Sample Size.....	3-22
3-3	Average Unit Costs as a Function of Population Served.	3-25
3-4	Average Unit Costs as a Function of Type of Library...	3-26
3-5	Combined Unit Costs as a Function of Type of Library..	3-29
3-6	Combined Unit Costs for Metropolitan and Outstate Libraries.....	3-30
3-7	Percent of Labor Dollars Spent on Service Categories, by Type of Library.....	3-32
3-8	Unit Cost of Circulation for Nine Library Systems.....	3-34
4-1	Composition of Regional Library Systems.....	4-2
4-2	Distribution of Served and Unserved in Counties Partially Served by Regional Systems (1974).....	4-5
4-3	Unaffiliated Counties Providing Library Services to All County Residents.....	4-6
4-4	Unaffiliated Counties Serving Only Part of County Populations.....	4-8
4-5	Comparison of Levels of Service for Three Types of Libraries, Provision of Materials.....	4-11
4-6	Comparison of Expenditures by Type of Library.....	4-17
4-7	Comparison of Local Income 1973 and Mandatory Support in Adjusted Valuation.....	4-20
4-8	Characteristics of the Regional Library Systems.....	4-25

4-9 Distribution of State Funds - OPLIC Formula..... 4-27

4-10 Distribution of State Funds - Variations in the OPLIC Formula..... 4-28

4-11 Formula 3A - Per Capita Sustaining Grant Plus 25% Differential Grant..... 4-33

4-12 Formula 3B - Per Capita Sustaining Grant Plus 50% Differential Grant..... 4-33

4-13 Schedule of Costs of State Aid, Three Year Period..... 4-35

4-14 Comparison of Characteristics of Counties with Populations Fully or Partially Served..... 4-40

4-15 Distribution of Unserved Populations by Region..... 4-41

4-16 Costs of Providing Recommended Statewide Services, Three Year Period..... 4-55

5-1 Funding Requirements for State Participation in Library Service Programs in Minnesota..... 5-8

APPENDIX TABLES

A-1 Universe and Sample Size..... A-3

A-2 Sample Libraries..... A-6

Summary Data For Individual Sample Libraries:

C-1 Circulation and Intrasystem Lending..... C-3

C-2 Interlibrary Loan..... C-5

C-3 Bookmobile..... C-6

C-4 Books-by-Mail..... C-8

C-5 Reference..... C-9

C-6 Children's Services..... C-10

C-7 Special Services.....C-11
C-8 Collection Development and Maintenance.....C-12
C-9 Technical Processing.....C-14
C-10 Public Relations.....C-16
C-11 Administration.....C-17

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Westat staff members participating in the project included Vernon E. Palmour, Project Director, Marcia C. Bellassai, Dennis D. McDonald, and Nancy K. Roderer. Beth I. Krevitt-Eres of Aspen Systems served as a project staff member.

Westat, Inc.
October 1974

1. SUMMARY

The Minnesota State Board of Education is seeking to improve the availability of public library services for the citizens of Minnesota. Recognizing the wide disparity in public library services, the State Board has funded the development of regional systems and other cooperative library programs. The State Board directed that a study of Minnesota public libraries be conducted to determine the best use of state funds to promote library development in pursuance of their goal to raise the general level of services offered and to equalize the availability of these services.

Westat, Inc. was awarded the contract to conduct the study of Minnesota public libraries. The investigation was made between April and October 1974. The overall objective of the study was to determine the most effective organizational structure, standards of operation, and a program of financial support for public libraries in Minnesota. Study requirements specified that an analysis be made of current costs of library services in an appropriate sample of Minnesota public libraries. Based on these costs, models would be developed to estimate potential costs for raising the current levels of service.

In order to estimate costs of library services, the individual services were defined in three categories as follows:

- Provision of materials

  1. Circulation
  2. Interlibrary loan
  3. Bookmobile
  4. Books-by-mail

- Provision of information and services

  5. Reference
  6. Children's
  7. Special

- Administrative and support services

  8. Collection development and maintenance
  9. Technical processing
  10. Public relations
  11. Administration

A probability sample of 31 libraries was drawn from the universe of all public libraries in Minnesota. The sample was designed to yield data from different sizes and types of libraries. Types of libraries included municipal, county, regional headquarters, and branches. Visits were made by Westat staff to each of the 31 libraries to collect data on community and service characteristics, library income, expenditures and cost of services. Based on this data, costing methodology was developed and applied to allocate staff time and expenses over the defined services. The costing methodology treated the sample libraries as single library facilities or local service outlets, e.g., certain costs incurred at a main or headquarter library were allocated to the other afilliated agencies.

Unit costs were computed for those services where it was possible to determine such costs. Westat was well aware of the difficulty in quantifying the units of service in the cases of reference questions received, number of children served and number of persons served in special services. While the report shows unit costs for these services, the reader must realize the limitations of the estimates. The most meaningful unit costs are those with well-defined output measures and adequate service

volume -- viz., circulation, bookmobile, collection development, and technical processing. For purposes of the summary, the findings with regard to these four unit costs will be highlighted.

Cost Analysis Findings

- The average unit staff costs across all libraries were:

Circulation	$0.18
Bookmobile Circulation	$0.32
Collection Development	$1.40
Technical Processing	$1.06

- The average unit staff cost of circulation was not related to size of population served by libraries but varied by type of library:

Municipal	$0.13
Municipal Branches	$0.23
County Headquarters	$0.12
Regional Headquarters	$0.17
Regional and County Branches	$0.25

- The average unit staff cost of bookmobile circulation was also unrelated to size of population served but varied somewhat according to type of library:

Municipal	$0.34
County	$0.30
Regional	$0.34

- Staff costs for direct circulation, bookmobile circulation and books-by-mail for each library were divided by the total units of service to derive a combined unit cost of circulation. This combined unit cost was $0.18 for all libraries and varied according to type of library:

Municipal (including branches)	$0.15
County (including branches)	$0.19
Regional (including branches)	$0.25

- Distinguishing between metropolitan area and outstate libraries, the average combined unit cost was $0.22 for MELSA libraries and $0.18 for outstate libraries.

- Both collection development and technical processing unit staff cost appeared related to size of the population served.

Population	Collection Development	Technical Processing
50,000 or greater	$1.71	$1.36
10,000 - 49,999	$1.64	$1.28
Less than 10,000	$1.29	$0.91

- Qualitative findings suggested that unit costs of library services for individual libraries varied based on the level of service provided as well as on other factors as noted above.

Financial Support

The current funding of public library services in Minnesota is heavily dependent upon local financing, with funding levels varying widely; support of libraries throughout the state is consequently extremely uneven. In addition, the state level of supplementary support is minimal, representing only about five percent of total expenditures.

Equalizing the availability of library services in the state requires both improvements in equitability of local funding and increased state participation in the funding of public library services. Defining adequate service in terms of a minimum standard per capita expenditure of $8.00, the total cost of providing adequate service statewide would be about $30,000,000. Based on the level of expenditures in 1973, an additional expenditure of more than $10,000,000 would be required. Mandatory local funding minimums

could provide about 60 percent of the additional funds required. Increased state participation would be necessary to cover the balance.

Goals of state funding should include reasonable equalization of funding for all regions of the state as well as development of new statewide programs for providing service where convenient local access to services is not possible. Several alternative approaches to meeting these goals have been considered, and the following recommendations are made:

- A minimum level of local support should be legally mandated. This minimum support should be partially offset in the initial years for any local jurisdiction joining a regional system.
- A formula for distributing state aid should incorporate an annual adjustment to upgrade per capita expenditures for those regional systems expending less than the state average. Some level of sustaining support for all regional library systems should also be included.
- Due to the wide variety of assessment practices among the counties, any use of assessed valuation of real property should be based on the adjusted assessed valuation as defined and used for financing public education in Minnesota.

Organizational Structure and Standards

Almost all Minnesota libraries are below recommended minimum levels for materials and personnel (particularly professionals) and many are below recommended levels of hours of service. Larger library units can provide a greater range of materials as well as a higher level of staff, and continued

expansion of the regional library systems appears to offer the best solution for improving standards and levels of services in the state. Multiple access points (bookmobiles, books-by-mail, etc., in addition to conventional libraries, branches, and service points) and improved hours of service, would do much to provide the convenience of access which is the primary goal of the Minnesota Long Range Plan for Library Services.

Recommendations concerning the organizational structure are as follows:

- Continued emphasis should be given to combining the smaller existing county and regional systems.
- Continued emphasis should be on networks of services rather than networks of libraries, with the possibility of different network configurations for different services.
- Financial incentives should be offered to encourage holdout libraries and areas not currently supporting libraries to join systems.
- Bookmobile services should be expanded to the unserved areas of the state.
- Books-by-mail services should be centalized and provided to all residents of the state. Persons utilizing the books-by-mail service, who lack convenient access to conventional facilities, should also be provided interlibrary loan services through this operation.
- The MINITEX experimental program for the provision of telephone reference service should be expanded to provide direct toll-free service to all residents of the state.
- Active programs to upgrade the professional and technical skills of personnel employed in Minnesota libraries should be developed and implemented. In addition, specialized field consultants should regularly visit regional library systems to reinforce library personnel expertise and to provide a constant flow and exchange of library information among regions.

- Innovative services and new approaches to serving the needs of groups and individuals for whom conventional facilities fail to provide convenient access should be developed.

- The role of OPLIC in the development of statewide library services should be strengthened. A committee or task force should be established immediately to determine the appropriate position and level of the OPLIC Director within the Department of Education or, perhaps, another agency in the state government. The upgrading of the Director's position to that of an assistant commissioner was suggested most often, but this question could best be answered by persons familiar with the state library and political situation.

- The OPLIC staff should be expanded by three additional library consultants. OPLIC staff should interact more with working librarians throughout the state.

- Some of the areas appropriate for review and assistance by OPLIC and/or regional systems' staffs include budgeting, selection of materials, and provision of reference services.

- Increased centralized services and consultation should be available to assist in the proper understanding, selection, storage, and use of audiovisual materials.

Costs for Implementation

First year costs for implementing recommended programs have been estimated at $2,264,100. This does not include special grants for new and experimental programs which require priority allocation of funds.

2. MINNESOTA PUBLIC LIBRARIES

2.1 Introduction

Minnesota, like all other states, is faced with the increasingly complex problem of planning, organizing, and funding the development of library services to meet the information needs of its citizens. Operating within budget constraints, the state must access the information needs of citizens, review the resources available, and develop a program that maximizes the use of their limited funds. In a time when information needs, state priorities, sources of revenue, economic trends, and the general image of public libraries are changing rapidly, goal-related planning is a must.

Recognizing the need, the State of Minnesota first adopted long range planning for public library development in 1957. Numerous revisions and program changes have been incorporated into the plan at intervals evolving into the current plan published in 1972[1]. This planning document formulates the current goals, objectives, and priorities necessary to accomplish the plan.

Operating under the purview of the state plan, the State Board of Education has attempted to raise the general level of library services offered to state residents and to equalize the availability of those services. This interest was reflected in the 1973 session of the state legislature which provided funds for substantially increased state participation in the financing of public library systems. In early 1974, the State Board of Education

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[1] "Minnesota Long Range Plan for Library Service, 1972." Minnesota Libraries, vol. 23 no. 10 (Summer 1972).

directed that a study of Minnesota public libraries be conducted to determine the best use of aid funds to promote library development in the state. The overall objective of the study was "... to determine the most effective organizational structure, standards of operation and a program of financial support for public libraries in Minnesota."

A contract to conduct the proposed study was made with Westat, Inc. in April 1974. The purpose of this report is to present the findings and recommendations of the study.

2.2 The History of Minnesota Library Service

The Minnesota Legislature paved the way for free public libraries in 1879 with their enactment of a law permitting municipalities to levy a tax for library services. By 1900, the state had 47 public libraries serving 35 percent of the population. The number of library service outlets serving the state grew to 305 by 1973, not including 38 bookmobiles. Even more important than the number of libraries is the fact that by 1973 about 91 percent of the state's population had library service available.

In 1899 a State Public Library Commission was created to encourage the establishment of free libraries in Minnesota and to make good books accessible to all residents. Twenty years later the functions, powers, and duties of the Commission were transferred to the State Board of Education. The role of the Commission was assumed by the Library Division of the Department of Education and included supervision of school libraries; advisory service for public libraries; and direct service to libraries, schools, and individuals through the traveling library collections.

Over subsequent years the office responsible for libraries within the Department of Education has changed its overall role and its reporting position in the organization a number of times. At this time the Office of Public Libraries and Interlibrary Cooperation (OPLIC) is that part of the Department of Education vested with the responsibility for public libraries. Both academic and school library concerns are under other offices.

Since 1957, there has been a long range plan for public library development in effect. The major thrust in the original plan was the concept of regionalization of service, and the State Library Agency subsequently divided the state into eleven planning regions. At the end of 1972, three types of organization existed in multi-jurisdictional regions: consolidated multi-county libraries, (8), multi-county federations organized under the regional library law (2), and a federated public library system established as a non-profit corporation (1). These regional groups encompassed 45 of the 87 counties in the state.

2.3 Basic Statistics

As stated previously, in 1973 there were some 305 public library service outlets in Minnesota, including branches and affiliated local libraries. Excluding the latter categories, 174 headquarter or independent libraries can be grouped into the following categories: regional libraries, library system members, county libraries, county service by contract, unaffiliated city libraries (population below 5,000 and 5,000 and above), and state institution libraries. Relevant statistics for these 174 libraries, taken directly from the "Public Library Statistics, 1973" issue of Minnesota Libraries, are shown in Table 2-1.[2]

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[2] "Public Library Statistics, 1972." Minnesota Libraries, vol. 24 no. 1 (Spring 1973).

Table 2.1 Minnesota Public Library Statistics, 1973

Public Libraries by Population Divisions	Number of Libraries	Population Served	Number of Volumes in Libraries	Volumes Per Capita	Number of Volumes Loaned	Circulation Per Capita	Materials Expenditures	Per Capita Expenditures Materials	Total Operating Expenses	Expenditures Per Capita
Regional Libraries	8	625,510	876,242	1.40	2,298,944	3.68	300,375	.48	1,539,365	2.46
Arrowhead Library System	25	302,939	694,173	2.29	1,702,916	5.61	260,210	.86	1,373,704	4.53
[illegible]	8	1,751,782	3,714,868	2.12	11,626,131	6.64	2,516,131	1.44	13,430,270	7.67
[illegible]	22	266,406	567,183	1.90	1,463,906	4.91	201,242	.67	1,142,290	3.83
County Libraries (Total)	6	136,966	302,472	2.21	770,310	5.62	115,606	.84	528,710	3.76
[illegible] by Contract	4	43,723	67,906	1.55	163,687	3.74	20,013	.46	82,933	1.90
City Libraries (Not Affiliated) Population 5,000 and more	13	152,399	424,296	2.78	999,848	6.56	158,008	1.04	658,734	4.03
Population under 5,000	64	135,805	565,749	4.17	795,386	5.86	116,321	.86	340,730	2.50
[illegible] Institution Libraries	24	(1)	130,000				23,112		405,768	
On the Basis of Population Served		3,447,530	7,342,949	2.09	19,821,128	5.74	3,711,018	1.06	19,102,504	5.53
On the Basis of total population		3,805,069	7,342,949	1.89	19,821,128	5.20	3,711,018	.96	19,102,504	5.01

[1] Included in population of public library serving institution

As shown, circulation statewide in 1973 totalled 19,821,128 items, or an average of 5.74 items per capita based on population served. Circulation per capita varied by type of library from 3.68 to 6.64. Total operating expenditures amounted to $19,102,504 or an average of $5.53 per capita, with the range by type of library extending from $1.90 to $7.66. For individual libraries, per capita operating expenditures ranged from a low of $.21 to a high of $10.68.

Also relevant to the discussion of public library service is the identification of the population to be served. Extracting from the 1970 Census of Population,[3] data on population groups and corresponding areas are presented in Table 2-2. This suggests a wide diversity in the types of areas to be served, with population densities of 860 in the Minneapolis-St. Paul SMSA, 45 in the other SMSA's and 24 in the remainder of the state. Forty-eight percent of the total population and 68 percent of the urban population is concentrated in the Minneapolis-St. Paul SMSA.

2.4 Current Problems in Minnesota Public Libraries

In recent years, significant progress has been made in the provision of public library service to citizens of Minnesota, particularly through the establishment of regional library agencies and in the identification of goals as presented in the long range plan.[4] Statewide funding for library services has increased substantially, as has the number of persons served. Still, problems remain.

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[3] U.S. Bureau of the Census, U.S. Census of Population: 1970, Number of Inhabitants, (Final Report PC(1)-A25 Minnesota), Washington, D.C.: U.S. Government Printing Office, 1971.

[4] "Minnesota Long Range Plan for Library Service, 1972." Minnesota Libraries, vol. 23 no. 10 (Summer 1972).

Table 2-2. Minnesota Population Statistics, 1970

Population Group	Population		Area (Square Miles)	
SMSA's				
Minneapolis-St. Paul	1,813,647	47.7%	2,108	2.7%
Other SMSA's[1]	351,382	9.2%	7,793	9.8%
Outside SMSA's				
Urban	546,661	14.4%	69,388	87.5%
Rural	1,093,281	28.7%		
Total	3,804,971	100%	79,289	100%

[1] Other SMSA's are Rochester (Olmstead County), Duluth-Superior (St. Louis County in Minnesota), and Fargo-Moorhead (Clay County in Minnesota).

Key to many difficulties is the diversity of areas to be served - areas created by geographical and jurisdictional borders and including large and small cities and their outlying areas as well as vast areas sparsely populated. Of necessity, the methods of meeting needs for service within these areas vary, as do the needs themselves. It is clear that areas must group together for mutual support as best afforded by the particular service needs of their users and their own internal needs.

While often justified by the particular types of service area, inequalities of service go beyond this factor and can be identified as an important problem area. Even within circulation services, which 91 percent of the state's population has some access to, service can mean direct, bookmobile, or mail-a-book access to collections varying greatly in size and scope. Interlibrary loan service, which in theory greatly extends the number of titles which can be accessed by a library user, has drawbacks which severely limit its use. Other services generally accepted as within the purview of the library - reference, children's and special services can be found to be greatly lacking and even non-existant in some areas.

Adequate materials are also lacking in Minnesota libraries, with an average of 1.89 volumes per capita and significantly less in some jurisdictions. Materials expenditures are correspondingly inadequate, and particular problems exist in the non-book categories of materials.

Inadequacies are also apparent in the personnel structures of Minnesota libraries. With some exceptions (primarily the largest libraries) both number and level of staff are inadequate to provide

appropriate levels of service. Contributing to the problem is the insufficient amount of dollars available for salaries.

Impacting upon all of these problem areas are questions of organization, standards, and funding, topics which form the basis of this study and will be discussed throughout.

2.5 Study Overview

As directed by the State Board of Education, the purpose of the study conducted by Westat was determination of "the most effective structure, standards of operation, and a program of financial support for public libraries in Minnesota." In order to meet this objective, a large variety of data on both 1973 library operations and the population served was required, including such elements as general characteristics; volume, level, and costs of services provided; funding sources; and characteristics of both served and unserved communities. Systematic collection and careful analysis of the data was essential.

These requirements led to the identification of a study plan which focused on the collection of extensive data in a sample of 31 Minnesota public libraries. The sample drawn was designed to yield data from different sizes and types of libraries including municipal county, regional and branch libraries in three size categories. Sample libraries were visited by the Westat project team to collect data on community and service characteristics, library income and expenditures, and cost of services.

Based on the data collected, costing methodology was developed and applied, resulting in the identification of service costs, and units costs where applicable, for the following:

circulation, reference, interlibrary loan, bookmobile, books-by-mail, reference, children's services, special services, collection development and maintenance, technical processing, public relations, and administration. Analysis of other data collected was conducted as appropriate to provide increased understanding of the implication of the cost data and to support the study objectives.

Details on the survey and costing methodology are presented in Appendices A and B and Chapter 3. Chapter 3 also includes the cost data developed, as does Appendix C. Analyses and interpretation of the data collected with respect to the goals of the study are covered in Chapter 4, and a summary plan of action incorporating all recommendations is suggested in Chapter 5.

3. COST OF LIBRARY SERVICES

A major difference in this investigation in contrast to most public library studies was the emphasis on estimating costs of providing library services. Study requirements specified that an analysis be made of current costs of library services in an appropriate sample of Minnesota public libraries. Based on these costs, planning models would be developed to estimate potential costs of raising the current level of service.

In any survey, study objectives are the basis for survey design, data collection and analysis. The cost component of the Westat Minnesota Public Library Survey was designed to yield data of a comparative nature, rather than of an evaluative nature. This distinction is important. An evaluative survey implies that the investigator is measuring the "benefit" or "value" of the object under study. It also implies that the investigator has at his or her disposal the means of measuring benefit or value. Finally, performance of an evaluative survey implies that the investigator has an interest in making judgements concerning the "goodness" or "badness" of the object or organization under study.

The cost aspect of this survey, however, was not designed to measure "efficiency" of individual libraries. The overall objective of the study was to provide information supporting the determination of the most effective organizational structure, standards of operation, and program of financial support for public libraries in Minnesota. It was assumed that comparative cost data, gathered from a sample of libraries, would yield background information suitable for making decisions regarding the costs of library services of various types in different areas of Minnesota. What follows in this section is a description of the cost elements

studied in the survey, including a description of the basic methods of computation, and a report on the most significant findings of the cost analysis. (For more detailed costing methodology and results, see Appendices B and C.)

3.1 Development of Service Categories

The following are descriptions of library service categories which were used to classify the varieties of functions which public libraries perform. Compromises were made between purely functional definitions, which cut across individual libraries' organizational variations, and purely program definitions, which tend to group certain functions together because of their orientation towards particular media (such as audiovisual services or government documents collections) or towards particular client groups (such as children's services or bookmobile service to distant or rural populations). This set of categories was developed to satisfy the following criteria:

1. Provide a common basis for classifying individual library expenditures of staff time, materials, and supplies which would be suitable for both small and large public libraries;

2. Provide a common basis for comparing expenditures of staff time, materials, and supplies across varying sizes of libraries.

To organize data collection and analysis, library services were divided into three broad groups: Provision of Materials, Provision of Information and Services, and Administrative and Support Services.

3.1.1 Provision of Materials

This category includes services which support the transfer of print or audiovisual materials between libraries and/or between libraries and patrons. Ordinarily, these services respond directly to patron demands or requests. These services are:

1. Circulation
2. Interlibrary Loan (ILL)
3. Intrasystem Lending (ISL)
4. Bookmobile
5. Books-by-Mail

Circulation

Circulation services enable individual libraries to loan library materials to patrons, keep track of the materials while they are outside the library, and return these materials to the library collection for repeated use. Circulation service includes the following functions:

1. Patron registration and registration file maintenance;
2. Booking and reserve operations to enable patrons to request materials for subsequent charge-out;[1]
3. Charge-out of library material, and circulation file maintenance;
4. Overdue processing and billing procedures;
5. Daily or other regular tabulation of circulation statistics;
6. Return and shelving operations.

[1]Not to be confused with college library reserve systems designed to provide restricted or limited access.

Interlibrary Loan (ILL)

Interlibrary loan involves functions devoted to requesting, locating, and transferring materials between library systems, rather than between branches and headquarters. Requests may arrive via mail, teletype, telephone, or delivery service. Materials may be transferred in original or photocopy form, via delivery service, mail, or parcel post.

Interlibrary loan involves separate sets of functions for borrowing and lending operations. Borrowing functions include:

1. Recording of request for ILL;
2. Filling out of ILL form;
3. Verification of requested item's citation and/or location;
4. Mailing or teletyping of ILL request;
5. Receiving, routing, returning, and record-keeping

Lending functions include:

1. Receiving, verifying, and locating requested items;
2. Photocopying;
3. Wrapping, mailing, and/or transportation;
4. Return and follow-up procedures;
5. Regular tabulation of statistics.

Intrasystem Lending (ISL)

Intra-system lending involves functions devoted to requesting, locating, and transferring materials between branches and the central library within a library system. Generally, the major flow of requests is from branch to headquarters, while the

major flow of materials is from headquarters to branch. Naturally, an independent library would not devote time to ISL. ISL must be distinguished from (1) ILL, which transfers items outside the system, and (2) normal collection development and maintenance activities coordinated by a central library for its branches or members. Intra-system lending functions include:

1. Identification of the requested item not available at the local facility;
2. Location of the requested item in a central or branch location;
3. Transfer of the item from the source to the requesting location for normal circulation;
4. Return of the requested item to the source location (if applicable);
5. Regular tabulation of statistics related to the above (if applicable).

Bookmobile

Bookmobiles provide a variety of overlapping services which are treated together because:

1. Bookmobile service is highly compartmentalized and departmentalized;
2. Due to its nature it places high cost variance on regular library services, such as circulation;
3. It is a highly visible library service which deserves to be treated as a unit.

Bookmobile service involves:

1. Selection and replacement of the bookmobile collection;
2. Driving and staffing of the bookmobile on the road;

3. Operation and maintenance cost of the bookmobile;

4. Regular tabulation of bookmobile statistics.

In the sample of thirty-one libraries, fourteen provide bookmobile service. In 1973, twenty-two library systems operated bookmobile programs in Minnesota.

Books-by-Mail

This mail service involves elements of circulation, ILL, and intra-system lending, but because of its usual compartmentalization and visibility it was considered as a single service. Mail service is of two types -- formal and informal. Formal mail service usually involves:

1. Contract with publisher to provide catalogs or other supplies for mail service;

2. Purchase and maintenance of paperback collection, and payment of two-way postage charges;

3. Staffing of mailing operation for catalogs and books;

4. Record-keeping and statistics tabulation for the above.

Informal mail service is performed at the discretion of the librarian when a patron desires an item before it can be made available through normal branch or bookmobile delivery. The operations involved are similar to ILL lending, except that the item loaned might be returned to the nearest branch.

Both formal and informal books-by-mail service are designed to provide library service to individuals who, because of location, infirmity, or other personal circumstances, cannot reach a library branch or bookmobile stop. Often, books-by-mail service may provide patrons with their first library contact.

In the sample of thirty-one libraries, five formal books-by-mail services were identified as being operational during all or part of 1973. (Ordinarily, informal books-by-mail service is small in volume when compared with the formal service, which provides the basis for the volume statistics and cost figures in this report).

3.1.2 Provision of Information and Services

This general category includes library patron services which do not directly involve an output of print or non-print materials, as is the case with Provision of Materials. Rather, these services are primarily informational, educational, or entertainment-oriented in nature, and as a result, their output -- either in terms of quantity or quality -- is particularly difficult to measure. These services include:

1. Reference
2. Children's Services
3. Special Services

Reference

Reference service is the provision of information or materials to a library patron in response to a direct patron request. The library patron's request may take the form of a request for a specific item (an author/title request), or it may take the form of a request for information (bibliographic citation[2], simple fact[3], multiple fact[4]). The patron's request might be communicated to the

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[2]Bibliographic Citation: request for a complete author, title or publisher citation.

[3]Simple Fact: request for single answer which may be found in a single reference tool.

[4]Multiple Fact: request involving answers compiled from more than one source where various parts of the answer must be brought together for the user.

library in person, by telephone, radio, or teletype call from the patron or another librarian or facility, or the request might be delivered by a bookmobile or delivery service. In response to a patron request, the library might provide one or more of the following:

1. Requested item(s)
2. Requested information
3. Referral to a potential source
4. No response.

Reference service involves both direct and indirect responses to patron requests. Direct responses involve the following:

1. Patron interview and negotiation of the reference query;
2. Search and location of relevant materials or information;
3. Comparison and identification of possible sources (including possible referral to outside sources);
4. Communication of desired materials or information to requestor;
5. Tabulation of statistics for the above.

Indirect responses to patron requests include:

1. Collection development of special reference collection;
2. Development and maintenance of special reference-oriented files or location devices.

Children's Services

The organization of children's services varies widely from library to library, ranging from no services at all to a separately

staffed and operated children's department. As a result, the number of services provided for children varies. In order to compare children's services from library to library, the following functions are included under this category:

1. Children's reference;
2. Children's programs (which includes both school-related and non-school related activities, such as book clubs, class tours, etc.);
3. Public relations for childrens services when this is done by the children's librarian or children's department personnel;
4. Administrative and supervisory time by children's department personnel when a separate children's department exists.

Ordinarily, time spent by children's department personnel on such services as circulation (e.g., registering children for library cards) and collection development (e.g., selecting books for the children's colleciton) was not included in the costing of children's services.

Special Services

This category covers the variety of regularly or irregularly scheduled programs which a library might arrange, other than specifically child-oriented services such as those already mentioned under children's services. Special programs include:

1. Services to homebound, hospitals, reservations, or other specially identified client groups;
2. Ongoing neighborhood film programs, book discussion seminars, etc;
3. Special entertainment programs;
4. Outside speaker, and adult education programs;
5. General library tours.

3.1.3 Administrative and Support Services

This general category includes services which do not deal directly with library service to the public (as is the case, for example, with reference), or services which are not performed as a direct result of user demands or transactions (as is the case with circulation). Rather, Administration and Support covers services dealing with internal library management, communications with users and funders, and procurement and processing of the tools of library services. Administrative and support services include:

1. Collection Development and Maintenance
2. Technical Processing
3. Public Relations
4. Administration

Collection Development and Maintenance

This category includes library operations which have as their objective the procurement of new materials or the replacement or maintenance of already existing collections. Collection development includes:

1. Review reading
2. Approval examination
3. Previewing
4. Book, periodical, and audiovisual selection
5. Order initiation and order routines
6. Weeding
7. Last copy decisions
8. Replacement of rotating collections
9. Transportation of new materials to remote collections.

Collection development includes activities related to adult, juvenile, print, and non-print materials.

Technical Processing

Technical processing, ordinarily a highly centralized operation within a library system, includes two basic components:

1. Physical preparation, repair, and maintenance of library materials.
2. Development and maintenance of bibliographic tools.

More specifically, technical processing includes a variety of professional and clerical tasks which may or may not be performed by a single library department:

1. Original cataloging;
2. Cataloging with copy;
3. Card preparation;
4. Catalog development;
5. Card filing and catalog maintenance;
6. Binding and/or preparation of materials for binding;
7. Cleaning, inspection, and repair of AV materials;
8. Check-in of periodicals and newspapers;
9. Subject heading of pamphlet and vertical files;
10. Pasting and mounting of file materials;
11. Pocket-pasting, labelling, spine-marking, tape reinforcement, and related preparation and repair activities.

Public Relations

This category covers activities designed to communicate information about library policy, services, and resources to the

public. Activities include:

1. Preparation of news releases for radio, television, and newspapers;

2. Communications with community or special interest groups about library needs or services;

3. Advertising;

4. Design, preparation, and construction of internal or external library displays (e.g., posters and display cases);

5. Preparation of annual reports for public distribution;

6. Preparation and distribution of bookmarks, special reading lists, and new acquisitions lists.

Ordinarily, there is a significant overlap between public relations functions and administrative functions.

Administration

There exists a myriad of definitions of administration within the field of management theory. Some describe what administration is and others what administration is not. After some thought, one might consider two possible general approaches to defining administration: definition by inclusion and definition by exclusion.

A definition by inclusion would list all the functions which administrators perform, and under each would be listed specific tasks and sub-tasks performed by administrators. A definition by exclusion would list the functions not performed by administrators. For purposes of this study, time not devoted by individuals to the previously described service categories would simply be charged to the administration category. Problems arise from applying exclusively either of these two definitions.

Given that the objective was to investigate the comparative costs of specific library services, a combination of the two above approaches appeared to have the most utility. Therefore, the following guidelines were developed to enable the study team to classify library staff time as belonging to the administration category or to another category:

1. Top administrators (e.g., Library Director or Assistant Librarian) would have that time applied to administration which was not directly involved in providing services other than administration (e.g., a Library Director with responsibility for book selection would have book selection time applied to collection development and maintenance, rather than to administration.)

2. Department heads, assistant department heads, and supervisors responsible for a single library service would have their time applied to that service (e.g., a Head of Circulation would have his or her time applied to circulation.)

3. Department heads, assistant department heads, and supervisors responsible for multiple library services would have their time actually involved in those services applied to those services, and the remainder of their time applied to administration (e.g., a technical services librarian responsible for supervising staff involved in ordering, cataloging and preparations, and who was actually involved in original cataloging, would have the cataloging time applied to technical processing, and the remainder applied to administration.)

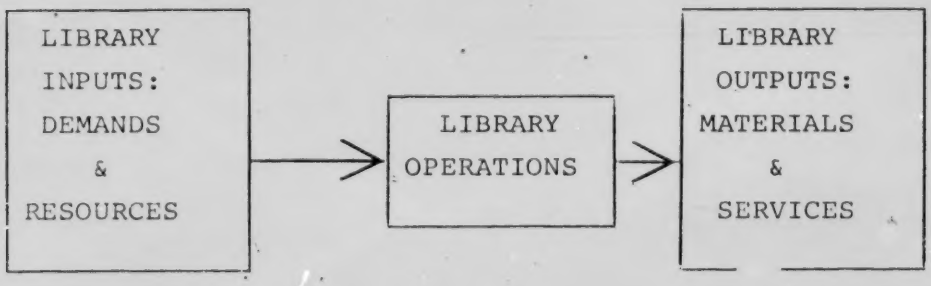
4. Other non-maintenance personnel not directly involved in provision of library services would have their time applied to administration (e.g., administrative assistants, management analysts, personnel office staff, and clerical staff.)

3.2 Cost Methodology

3.2.1 A Library Model

This survey identified the volume and cost of the services being offered within the sample libraries. Before describing the actual methodologies used in obtaining these costs, a few words are in order concerning the actual units used in measuring library services provided by these libraries.

The following is a simple input-output description of a library:



The demands upon a library are as varied as the individuals and groups making them. The demands may come from local government, from groups of served or unserved individuals, from students, teachers, or business people, from a walk-in or phone-in patron at the local public library, or from the library staff itself. These demands on the library may take a variety of forms: demands for decreased expenditures, for new bookmobile stops, for more specialized reference sources, for more instructional films, or for higher staff salaries. Obviously, these demands, depending upon how the library reacts, will have an effect on the cost of the services which the library provides.

Next, the resources utilized by the library are an input into its operations. These resources may take the form of staff (and its associated skills), equipment and technology,

supplies, funding, and library materials. Again, how the library utilizes these resources will have an effect on the cost of operations.

"Library operations", in this model, act as processors. Through its internal operations, the library, reacting to external demands, converts inputs (demands and resources) into its outputs (services). Ideally, the inputs are processed into outputs in a manner which best satisfies those making the demands upon the library. Library materials, through cataloging and preparations, for example, are converted into circulating materials complete with local bibliographic control. Staff members are assigned so that skills needed by a particular operation are matched with the skills possessed by a particular staff member. Funds are allocated among various service-supporting operations so that the demands upon the library are satisfied as much as is possible.

Finally, the output from a library's operations can take the form of materials or services. A materials output would be, for example, a processed book ready to circulate. A service output would be a response to a reference question.

All of the factors mentioned above have an effect on the cost of services. Even though this survey was meant to develop comparative costs, not evaluative costs and measures of internal efficiency, it was necessary to analyze the relationship among demands, resources, and library operations in order to develop costs for library materials and service outputs.

3.2.2 Unit Cost

Obviously, resources, demands, and internal processing technologies vary widely from library to library, as do associated costs for outputs. Logically, difficulty arises in comparing the two-room rural branch library with three staff members with a municipal branch having two professionals, ten clerks, and several part-time student workers. Even though both may circulate books and records, respond to reference questions, request materials from the headquarters library, and sponsor a summer reading club, the scale of operations itself dictates a difference in costs.[5] Two measures present themselves as tools for comparison: first, the unit costs, and second, the percent of total costs of services devoted to a particular service. Because the determination of comparative unit costs was a primary objective of this study, this measure will receive the most attention.

A "unit cost" is an average cost. That is, given a total cost for service i, say TC_i, and some measurement of the volume or "throughput" of that service within a given time period, say V_i, then the unit cost for that service, UC_i, is represented simply by

$$UC_i = \frac{TC_i}{V_i}$$

For example, when speaking of circulation, the unit cost represents the average cost per item checked out of the library during the time period under study. The unit cost for collection development and maintenance represents the average cost for items added and withdrawn during the time period under study. (For details involving individual unit definitions and calculations, see Appendix B.)

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[5] This is not to imply that "scale of operations" is the only reason for differences in costs.

The unit cost approach allows a comparison among libraries of different types and sizes. Even though the total cost of circulation may vary widely among libraries, circulation volume is highly correlated with total cost of circulation. Also, unit costs are simple measures of comparison, and this simplicity makes them very useful to a wide variety of individuals, librarians and non-librarians alike.

Some of the same factors which make unit costs attractive for making comparisons can create problems if unit costs are not properly interpreted. One problem arises in connection with determining the volume of service. The less a service can be defined in terms of discretely identifiable outputs, the less easy it is to generate some measure of volume. The traditional example of this is the difficult task of counting reference questions. Just as many libraries interpret the meaning of reference differently according to their own definitions, individuals tally reference questions differently also.

The result of this is that, even in the sample Minnesota libraries which agreed to keep a tally of reference questions over a period of two weeks during the summer of 1973, a variety of interpretations were made of Westat's categories for tallying reference questions of different types. Coupled with this was the fact that this tally was taken during the normally slack summer period, and extrapolated to an estimate of yearly volume by using the individual library's subjective estimates of the relationship between the tally figure and average monthly reference volume. Conclusions drawn from the data utilizing reference volume must be considered tentative and subject to wide variation.

Other volume figures which must be viewed with caution are special services and children's services. In both cases, the variety of functions whose costs appear in the numerator of the unit cost formula may or may not be directly associated with volume figures appearing in the denominator.

3.2.3 Cost Components

Within each service a number of different cost components may be broadly classified as labor and non-labor. Labor costs include professional, non-professional, and student time devoted to each service. The non-labor costs are supplies, materials, and equipment. For purposes of this study utilities, rent, building maintenance, and capital costs for buildings and major equipment were excluded.

The identification of reliable estimates of non-labor costs depended upon several factors. Among these were:

1. Amount of detail in expenditures sections in annual reports (in general, the amount of detail was quite low);
2. "Program" orientation of expenditure reporting within library financial reports or files, which enabled a better estimate of the use of materials to be made;
3. Internal differences among library departments in record keeping;
4. Accessibility or availability of invoice files (for 1973, the year under consideration);
5. Maintenance of detailed records of "major purchases" only, while classing smaller purchases in general categories such as "general", "overhead", "office supplies", or "postage and supplies";
6. Management's general lack of concern for non-labor costs when dealing with what are essentially labor-intensive services.

Non-labor costs were easier to identify with some services than others, e.g., supplies for circulation, collection development, and technical processing were easier to isolate than those for public relations and administration.

It is probably true that non-labor costs as reported in Appendix C are underestimates of their actual value. Due to the nature of non-labor costs, most analysis has been performed utilizing labor costs alone, which were derived from time estimates provided by library staff members or their superiors (see Appendix A for survey methodology).

3.2.4 Individual Libraries Versus Library Systems

In identifying cost components for the analysis of a sample library, difficulties were encountered in distinguishing between costs actually incurred at that location and the "actual" cost of providing service. This problem applies to all system headquarters and branches.

In calculating the cost for a service provided at a branch library, it is quite likely that support activities for that service are performed at the headquarters. The "actual" cost of providing that service at the branch would then be underestimated by reporting only labor and non-labor costs incurred at the branch. Conversely, if a headquarters performed support activities for a particular service for the entire system, the "actual" cost of providing a service at the headquarters alone would be overestimated by reporting the total cost for these activities performed for the entire system.

This problem can be illustrated by the following table, using as an example the circulation functions outlined earlier. Consider a library system in which the headquarters circulates materials to the public and also performs circulation support functions for the entire system, shown by Table 3-1.

Table 3-1. Direct and indirect costs of circulation (not including ISL costs)

Type of Circulation Function	Type of Cost	Where Performed:	
		Branch	Headquarters
1. Register Patrons	Direct	x	x
2. Charge and Return		x	x
3. Shelving		x	x
4. Reserves and booking		x	x
5. Circ. File Maint.	Indirect		x
6. Reg. File Maint.			x
7. Overdue Processing			x
8. Billing			x

Generally, direct costs can be considered to be costs for providing services for local patrons or collections, while indirect costs can be considered to be costs for providing system-wide services.

Functions 1 through 4 in Table 3-1, performed by both branch and headquarters for their local patrons or collections, represent direct costs. Functions 5 through 8, performed for the entire system by the headquarters, represent indirect costs. Only a portion of the indirect cost for a service should be allocated to a single agency if the objective is to develop an actual cost for providing that service at that agency. This allocation is accomplished by multiplying, times the total indirect cost, an allocation factor representing the proportion of system volume accounted for by the agency under consideration. The total service cost is then calculated as the sum of direct costs plus the allocated indirect costs.

This methodology was applied to circulation and also to other services involving both direct and indirect cost components. Other service categories generally involving allocated costs are bookmobile, collection development and maintenance, and technical processing.

3.3 Survey Methodology

The costing methodology described in the previous section was applied to 31 libraries in a stratified random sample selected from the universe of Minnesota public libraries. To arrive at the sample, the 263 library outlets in the state were first grouped by size and type as shown in Table 3-2. The table also shows the size of the sample selected for each stratum. A list of the 31 sample libraries with their respective probabilities of selection is included in Appendix A.

A detailed questionnaire was developed to elicit the required information on library services. Components of the questionnaire included sections on general area and service characteristics, library income, total expenditures, costs of direct services, costs of support services, and external information. Both quantitative and qualitative data were solicited, but the most comprehensive sections of the forms covered the estimated time and cost of providing direct and support services. The services considered were those defined previously in this section.

Visits were made to each of the sample libraries to collect data. These visits were made by a professional staff member of Westat, who in each case briefed the director on the purpose of the study, administered the questionnaire forms, and collected such supplementary data as seemed relevant. Initial data analysis, i.e. the summarization of cost data from individual libraries, was the responsibility of the staff member who collected the data.

Table 3-2. Universe and Sample Size

Library Type and Size of Population Served	No. of Libraries in Universe	No. of Libraries in Sample
I Municipal Libraries[1]		
A. Population of 50,000 or greater	4[2]	4
B. Population of 10,000-49,999	15	3
C. Population less than 10,000	113	3
II Branch Libraries in Major Cities (IA)	29	4
III County Libraries		
A. Population 50,000 or greater	5	3
B. Population less than 50,000	8	3
IV Regional Library Headquarters		
A. Population 50,000 or greater	6	3
B. Population less than 50,000	3	2
V Regional and County Branches and Stations		
A. Population 50,000 or greater	1	1
B. Population 10,000 -49,999	15	2
C. Population less than 10,000	64	3
TOTAL	263	31

[1] Includes Arrowhead, MELSA, and SELCO system members.

[2] Main libraries in major cities: Minneapolis, St. Paul, Duluth and Rochester.

Additional details on the survey methodology utilized to arrive at cost data for analysis are presented in Appendix A.

3.4 The Costs of Services

3.4.1 Individual Library Data

Essential to the understanding of the financial needs of Minnesota public libraries, and also to the identification of recommended patterns of support, is the determination of current expenditures. Of prime consideration in the development of the cost methodologies described in the preceding sections was the need to answer such questions as:

How does the size and type of library affect the cost of library services?

What are the costs of specific library operations?

What labor and non-labor components make up the costs of services?

How does volume of service affect cost?

What direct and indirect service costs are incurred in various types of libraries?

What is the relationship between service times and costs?

Toward these goals, the study plan included specification of time, cost, and volume components for each of eleven services. Summary data for individual libraries is presented in Appendix C, as are unit costs where applicable. The remainder of this section will deal primarily with analysis of grouped unit costs.

The unit costs presented are weighted, and represent average unit costs for the universe of public libraries in a particular cell. For example, the average unit cost of

circulation for libraries serving 50,000 or more persons is an average figure based on combining the individual unit costs for each sample library meeting that size criterion. In most cases the aggregation meant combining libraries that had different sampling weights, hence the requirement to weight each library in the sum properly.

Tables 3-3 and 3-4 present weighted averages of the unit costs according to the type and size breakdowns identified in the sample design. Table 3-3 shows average unit costs as a function of population served, and Table 3-4 gives the costs grouped by type of library. Both tables present labor costs only. Non-labor costs are excluded for comparative purposes due to the increased variation they contributed to the estimates by the fact that a few sample libraries could not allocate supply expenditures over the individual services.

The range of circulation costs for individual libraries was fairly small, suggesting that circulation is a well-defined activity with consistent volume statistics. Average unit costs did not vary greatly according to size of population served, but did show some relationship to type of library. Branch costs ($.23 and $.25) were higher than headquarters costs (probably due in part to the inclusion of intrasystem lending in branch circulation costs), and regional headquarters costs ($.17) were higher than county ($.12) and municipal ($.13) average costs.

For other services included under the provision of materials, the data is less conclusive. Interlibrary loan staffing data was fairly difficult to isolate and so varied greatly from library to library; in general, unit cost seems most closely related to volume of service. The average unit cost of bookmobile service was found to be $.32, with some indication that unit cost increases as the population served by the library (not necessarily by the bookmobile) increases. Total miles travelled per bookmobile does not appear to have a relationship to unit cost. Books-by-mail data, based on five libraries, shows an average unit cost of $.20.

Table 3-3. Average Unit Costs as a Function of Population Served

Population Served	Number of Sample Libraries	Estimated Average Unit Cost (Labor Only)								
		Circulation	ILL	Bookmobile	Books-by-Mail	Reference	Children's Services	Special Services	Collection Development and Maintenance	Technical Processing
50,000 or more	11	$.16	1.25	.34	.21	.73	2.06	1.43	1.71	1.36
10,000-49,999	11	.17	2.15	.31	.18	.81	3.26	1.37	1.64	1.28
Less than 10,000	9	.18	.92	.27	-	.58	.70	2.00	1.29	.91
Total	31	.18	1.16	.32	.20	.65	1.77	1.49	1.40	1.06

Table 3-4. Average Unit Costs as a Function of Type of Library

Type of Library	Number of Sample Libraries	Estimated Average Unit Cost (Labor Only)								
		Circulation	ILL	Bookmobile	Books-by-Mail	Reference	Children's Services	Special Services	Collection Development and Maintenance	Technical Processing
Municipal	10	$.13	.92	.34	-	.50	.51	1.01	1.35	.57
Municipal Branches	4	.23	N/A	-	-	1.05	2.46	2.06	1.13	2.03
County	6	.12	2.98	.30	.20	1.41	3.19	.79	1.76	1.07
Regional	5	.17	2.14	.34	.20	.73	.71	.15	1.21	1.42
County and Regional Branches	6	.25	N/A	-	-	.50	2.72	1.25	1.80	1.44
Total	31	.18	1.16	.32	.20	.65	1.77	1.49	1.40	1.06

Consistent volume data was not obtained for the activities grouped under provision of information and services, and children's and special services presented the additional problem of combining services with clearly very different costs. In addition, no figures were collected for children's reference despite the fact that the service was included in children's services. Resulting unit costs reflect all of these difficulties, and vary widely among individual libraries. No conclusions are suggested.

Collection development and maintenance and technical processing unit costs appear related to the size of the population served, with unit costs increasing with population. This suggests that the level of processing may increase as does the population served and, generally, the collection size. The average unit costs for all libraries were $1.40 for collection development and maintenance and $1.06 for technical processing.

Regression techniques were applied to investigate the factors that may be related to the unit cost of circulation. Twelve factors or variables were used: population density, level of circulation, percent adult circulation, average minutes per transaction, hours open per week, percent professional of labor expenditures, labor dollars for circulation, circulation per volume owned, collection size per capita, volumes added per capita, per capita expendture, and per capita expenditure for children's service. The single factor with the greates relationship was percent adult circulation. This factor had a negative correlation with the unit cost of circulation which implies that as the adul percentage of circulation increases the unit cost decreases. Such a finding is difficult to explain.

Taking all twelve variables into account, the explanatory power was not very high. The twelve variables explained about 60 percent of the total variation in the unit costs. Five variables -- percent adult circulation, average minutes per transaction,

percent professional of labor expenditures, labor dollars for circulation, and circulation per volume owned -- accounted for about 50 percent of the total variation in unit costs. Such a model is not very useful for planning purposes.

A further attempt to identify relationships among data items dealt with the definition of several additional unit costs for combinations of services.

The first unit cost includes labor costs for the three types of circulation studied -- direct, bookmobile and books-by-mail; volume is taken as the sum of the three circulation counts for each library. The second unit cost is defined to include labor costs and volumes for all but the support services, that is, circulation, ILL, bookmobile, books-by-mail, reference, children's services, and special services. For a third combined unit cost, total labor costs are divided by total service volume, in effect distributing administrative and support costs over the services provided.[6] If one were willing to assume the support costs are "overhead" items, this unit cost reflects the full labor cost of each service transaction.

Tables 3-5 and 3-6 show the unit cost of circulation and the three combined unit costs grouped by type of library (Table 3-5) and by metropolitan vs. outstate libraries (Table 3-6). Results consistently suggest that ranked unit costs of providing services place municipal libraries first, or having the lowest cost, county

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[6]This final calculation required the allocation of system administrative costs over system components, to provide total labor costs for each library unit. The allocation, not previously performed, was based on circulation volume.

Table 3-5. Combined Unit Costs as a Function of Type of Library

Type of Library	Number of Sample Libraries	Average Unit Cost (Labor Only)			
		Circulation	Circulation Bookmobile, and Books-by-Mail	Circulation, ILL, Bookmobile, Books-by-Mail, Reference, Children's, Special	
				Service Labor Costs	Total Labor Costs
Municipal (including branches)	14	.15	.15	.23	.39
County (including branches)	10	.19	.21	.27	.40
Regional (including branches)	7	.25	.26	.30	.42
Total	31	.18	.18	.25	.40

Table 3-6. Combined Unit Costs for Metropolitan and Outstate Libraries

	Number of Sample Libraries	Average Unit Costs (Labor Only)			
		Circulation	Circulation, Bookmobile and Books-by-Mail	Circulation, ILL, Bookmobile Books-by-Mail, Reference, Children's, Special	
				Service Labor Costs	Total Labor Costs
Metropolitan (METLSA) Libraries	11	.20	.22	.36	.60
Outstate Libraries	20	.17	.18	.23	.36
All Libraries	31	.18	.18	.25	.40

libraries second, and regional libraries third or highest. This suggests a relationship between unit service costs and population and/or service density, since the rankings in general correspond to increasing land area with decreasing numbers of people per square mile. It is interesting to note, however, that the relationship observed is less marked when total labor costs are distributed over the services provided. The figures of $.39, $.40, and $.42, for municipal, county, and regional libraries, respectively, are surprisingly similar, despite the caveats concerning the computation of unit costs mentioned in Section 3.2.2.

In comparing combined unit costs for metropolitan and outstate libraries, where "metropolitan" is defined as the MELSA region, we find significantly greater unit costs for the "average" MELSA library. These results (in Table 3-6) must be viewed with caution, for both the metropolitan and outstate areas combine various types and sizes of libraries with wide variance in unit costs. The greatest portion of the differences in costs can be attributed to the unique services and costs associated with Minneapolis and St. Paul Public libraries and their associated branches, with a further breakdown of total labor costs divided by service volume showing $.73 for Minneapolis and St. Paul and their branches, $.43 for the remaining MELSA libraries, and $.36 for the outstate libraries. Type of library seems to be the best indicator of unit service costs, with unit total labor costs relatively consistent over all libraries.

Comparison of total labor costs per service unit above suggested that municipal libraries spend a greater proportion of their labor dollar on administrative and support services than do county libraries, and that regional libraries spend the smallest percentage of their labor dollar on this category. To confirm this, and to provide for additional observations on the percent of labor costs devoted to different categories of service, Table 3-7 was constructed. The table shows that the greatest proportion of labor dollars goes into the provision of materials, and the smallest proportion of labor expenditures (17%) is devoted to the provision of

Table 3-7. Percent of Labor Dollars Spent on Service Categories, by Type of Library

Type of Library	Number of Sample Libraries	Average Percent of Labor Dollars Spent			
		Provision of Materials	Provision of Information and Services	Administrative and Support Services	Total %
Municipal (including branches)	14	44%	17%	39%	100%
County (including branches)	9	49%	19%	32%	100%
Regional (including branches)	6	60%	12%	28%	100%
All Libraries	29	48%	17%	35%	100%

information and services. Comparing data for the different types of libraries, municipal libraries expend 61% of their labor dollar on direct provision of service, county libraries 68%, and regional libraries 72%. Implications of this and previous data on funding patterns and other courses of action to be taken will be discussed in the following chapter.

3.4.2 Systems Data

In considering the issues involved in statewide library planning, it is useful to think in terms of systems of groups of libraries rather than of individual libraries. Members of a system generally have many common characteristics, and act as a single unit in providing library services to a given population unit.

Since our sample consisted of individual libraries, systems data was not collected as such except when the system was sufficiently small that data for all branches could be readily ascertained. Indirectly, however, data obtained from any headquarters library reflected its dual role as an individual public service outlet and as a centralized location for certain system activities. To reduce this data to that for an individual library, certain system costs were allocated over each public service outlet (See Section 3.2.4). The same data, when coupled with that for at least one branch, can also be expanded to estimate total system costs.

Table 3-8 shows the unit cost of circulation for nine library systems, assuming that the branches sampled can be taken to represent other branches in the same system. As with individual libraries, variations among individual systems are great.

Table 3-8. Unit Cost of Circulation for Nine Library Systems

System	Number of Branches	Circulation Volume*	System Unit Cost of Circulation (labor only)
Municipal:			
Minneapolis	15	2,549,421	$.23
Duluth	4	564,763	$.15
County:			
Hennepin	24	4,205,608	$.17
Anoka	4	712,336	$.09
Washington	5	218,493	$.19
Austin-Mower	3	179,987	$.16
Regional:			
Great River	16	357,903	$.22
East Central	8	197,226	$.20
Northwest	5	113,919	$.22

*central plus branches

4. MEETING FUTURE NEEDS

Studying Minnesota libraries provides a profile of wide variations: greatly unequal per capita expenditures and substantial differences in quantities of materials available, levels of service provided, and qualifications of library personnel. Although over 90 percent of the population of Minnesota has legal access to library services, urban populations for the most part fare far better than rural populations where only 73.3 percent have legal access to services, and those usually only minimal access to library materials.

State leadership and support is necessary if goals of reasonable equality and convenience of access to all public library services for all residents of Minnesota are to be realized.

4.1 Organization of Library Service in Minnesota

Development of regional library systems has made substantial progress in Minnesota, with the organization by 1974 of eleven regional library systems encompassing all or parts of 63 of the 87 Minnesota counties, and 82.5 percent of the total population. Composition of these eleven regional systems is shown in Table 4-1. The Plum Creek and Region 9 systems have been organized only recently and are not yet fully operational. The Region 9 system (which at the time of this writing had not yet selected a system name) incorporates the old Minnesota Valley and LeSueur-Waseca regions as well as two county library systems and several municipal libraries from two additional counties. Plum Creek Regional Library System is based primarily on two county libraries with municipal libraries from four additional counties.

Table 4-1. Composition of Regional Library Systems

Region	Counties Included	Population of Counties	Population Served	% of Pop Served	
Crow River	Kandiyohi	30,548	30,548	100	
	Meeker	18,810	18,810	100	
Total		49,358	49,358	100	
East Central	Aitkin	11,403	11,403	100	
	Chisago	17,492	15,775	90.2	Excludes Rush City 1130, Taylor Falls 587
	Isanti	16,560	16,560	100	
	Kanabec	9,775	9,775	100	
	Mille Lacs	15,703	15,703	100	
	Pine	16,821	14,678	87.3	Excludes Pine City 2143
Total		87,754	83,894	95.6	
Great River	Barton	20,841	20,841	100	
	Morrison	26,949	19,482	72.3	Excludes Little Falls 7467
	Sherburne	18,344	18,344	100	
	Stearns	95,400	89,730	94.1	Excludes Paynesville 1920, Sauk Center 3750
	Todd	22,114	19,457	88.0	Excludes Staples 2657
	Wright	38,933	38,933	100	
Total		222,581	206,787	92.9	
Kitchigami	Beltrami	26,373	26,373	100	
	Cass	17,323	17,323	100	
	Crow Wing	34,826	31,575	90.7	Excludes Crosby 2241, Ironton 562, Deerwood 448
	Wadena	12,412	7,772	62.6	Excludes Wadena 4640
Total		90,934		92.8	
Lake Agassiz	Becker	24,372	24,372	100	
	Clay	46,585	46,585	100	
	Norman	10,008	10,008	100	
	Wilkin	9,389	4,104	43.7	
Total		90,354	85,069	94.2	
Northwest	Marshall	13,060	2,302	17.6	Warren 1999 and McCrea township 303 only
	Pennington	13,266	13,266	100	
	Red Lake	5,388	5,388	100	
	Roseau	11,569	11,569	100	
Total		43,283	32,525	75.1	
Plum Creek	Cottonwood	14,887	3,334	22.4	Mountain Lake 3334 only
	Lyon	24,273	20,437	84.2	Excludes Mineota 1320 & Tracy 2516
	Murray	12,508	3,577	28.6	Slayton 2351 & Fulda 1226
	Nobles	23,208	23,208	100	
	Redwood	20,024	4,774	23.8	Redwood Falls 4774
	Rock	11,346	4,703	41.5	Luverne 4703
Total		106,246	60,033	56.5	

[1]Data reported as of October 1974.

Table 4-1. (Continued)

Region	Counties Included	Population Of Counties	Population Served	% of Pop Served	
Region 9	Blue Earth	52,322	52,322	100	
	Brown	26,887	15,581	53.9	New Ulm 13051 & Springfield 2530
	Faribault	20,896	6,666	31.9	Blue Earth 3965, Elmore 910, Winnebago 1791
	Le Sueur	21,332	21,332	100	
	Martin	24,316	24,316	100	
	Nicollet	24,518	24,518	100	
	Waseca	16,663	16,663	100	
	Watonwan	13,298	13,298	100	
Total		202,232	174,696	86.4	
Arrowhead	Carlton	28,072	28,072	100	
	Cook	3,423	3,423	100	
	Itasca	35,530	20,884	58.8	Excludes Grand Rapids 14646
	Koochiching	17,131	17,131	100	
	Lake	13,351	8,749	65.5	
	Lake of the Woods	3,987	3,987	100	
	St. Louis	220,693	220,693	100	
Total		322,187	302,939	94	
SELCO	Dodge	13,037	2,321	17.8	Dodge Center 2321
	Fillmore	21,916	7,595	34.7	Chatfield 1162, Harmony 1130, Preston 1413, Rushford 1318, Spring Valley 2572
	Freeborn	38,064	38,064	100	
	Goodhue	34,763	17,657	50.8	Cannon Falls 2072, Kenyon 1575, Pine Island 1640, Red Wing 10441, Zumbrota 1929
	Mower	43,783	43,783	100	
	Olmsted	84,104	84,104	100	
	Rice	41,582	41,582	100	
	Steele	26,931	26,931	100	
	Wabasha	17,224	4,464	25.9	Plainview 2093, Wabasha 2371
	Winona	44,409	44,409	100	
Total		365,813	310,910	85	
MELSA	Anoka	154,556	117,070	75.7	Excludes Anoka 13489, Columbia Heights 23997
	Dakota	139,808	114,792	82.1	Excludes South St. Paul 25016
	Hennepin	960,080	946,652	98.6	Includes Minneapolis
	Ramsey	476,255	476,255	100	Includes St. Paul
	Scott	32,423	33,372	103	
	Washington	82,948	63,641	76.7	Excludes Stillwater 10191, Bayport 2987, Forest Lake 3207, Newport 2922
Total		1,846,070	1,751,782	94.9	
Grand Total		3,426,812	3,141,036	91.7	

Among counties partially affiliated with regions, population not included in the regional systems sometimes represents so-called "hold-out" libraries, or municipal libraries which elect to remain independent, but twelve of these counties are represented only by established municipal libraries and have substantial unserved populations. Table 4-2 provides a breakdown of these 12 counties showing population served by the regional system, population served by other municipal facilities, and unserved population. As may be noted, most of the unserved populations are rural, a group for which regional library bookmobile and books-by-mail programs currently provide the best opportunity for service. Commitment of county fiscal support for regional library systems is necessary to extend this service.

Five of the 24 totally unaffiliated counties operate county library systems or provide county library service by contract with a municipal library. One county, with municipal libraries providing service to urban residents, meets the needs of rural residents by contract with an adjoining county system. Table 4-3 shows the patterns of county services for these six counties as well as logical regional affiliations should they join a system. Several constraints hinder such action: (1) the area and region may not be sufficiently developed to attract them; (2) cost of contributions to a system may exceed current library expenditures; (3) local systems may be reluctant to cede autonomy. In most cases, addition of counties providing service to total populations may well be an asset to regional systems; in others the costs of improving these services and collections are greater than the contribution of the county involved. To maximize participation in regional systems there must be some financial incentive, both for counties joining and to regions including them.

Eighteen of the counties in the state have no regional affiliations and municipal facilities serve only portions of the

Table 4-2. Distribution of Served and Unserved Populations in Counties Partially Served by Regional Systems (1974)

County	Total Population	Regional System Serving Part of Population	% of Pop. Served by Reg. System	% of Pop. Served by Other Facilities	% of Pop. Unserved	% of Unserved Pop. Which Is Rural
Brown	28,887	Region 9	53.9	12.0	34.1	100
Cottonwood	14,887	Plum Creek	22.4	33.2	44.4	100
Dodge	13,037	SELCO	17.8	13.7	68.5	100
Faribault	20,896	Region 9	31.9	--	68.1	100
Fillmore	21,916	SELCO	34.7	1.1	64.2	100
Goodhue	34,763	SELCO	50.8	--	49.2	100
Marshall	13,060	Northwest	17.6	--	82.4	100
Murray	12,508	Plum Creek	28.6	--	71.4	100
Redwood	20,024	Plum Creek	23.8	13.4	62.8	100
Rock	11,346	Plum Creek	41.5	--	58.5	100
Wabasha	17,224	SELCO	46.8	--	53.2	100
Wilkin	9,389	Lake Agassiz	43.7	--	56.3	100

Table 4-3 Unaffiliated Counties Providing Library Services to all County Residents

County	Total Population	Served by	Logical Regional Affiliation
Chippewa	15,109	County System (95.7%) Municipal Library (4.3%)	Crow River
Douglas	22,892	Alexandria Municipal Library (100%)	Lake Agassiz
Grant	7,462	Elbow Lake Municipal Library (100%)	Lake Agassiz
Mahnomen	5,638	Mahnomen Municipal Library (100%)	Lake Agassiz or Northwest
Polk	34,435	County System (75.7%) Municipal Libraries (24.3%)	Lake Agassiz or Northwest
Yellow Medicine	14,418	Municipal Libraries (31.9%) Chippewa County (68.1%)	Crow River

county populations. Table 4-4 lists these 18 counties, the population served, and logical affiliations. Problems of incorporating these counties into regional systems are more substantial, both because of the usually low levels of local support and the high cost of initiating the new coverage required to serve them. While adoption of minimum required library funding (see section 4.3) would probably encourage many of these counties to join regional systems rather than develop full systems on their own, some level of support for regional systems accepting them must be provided by the state to underwrite initial costs for required new services.

The American Library Association recognizes a population of 100,000 as the average minimum level necessary for support of full library services. As presently constituted, some of the regional systems do not reach this level, nor do they appear likely to reach it. Such regions should be encouraged to realign or merge with other systems to provide a more adequate base for library services. The proposed merger of the Lake Agassiz-Northwest regions and the recently completed federation of the Minnesota Valley and LeSueur-Waseca regions are examples of such suggested merger.

4.2 Comparing Levels of Service in Minnesota Libraries in 1973: Meeting Proposed State Standards

There are many quantitative measures which can be used to compare levels of services in Minnesota Libraries in 1973. This section compares services by type of library or library system in the following categories:

1. Provision of materials, including
   - Volumes per capita
   - Circulation per capita
   - Percent of budget spent on purchase of materials
   - Percent of materials budget spent on audiovisual materials

Table 4-4 Unaffiliated Counties Serving only Part of County Populations

County	Total Population	% of Population Served[1]				Logical Regional Affiliation
		Urban	Village	Rural	Total	
Big Stone	7,941	100	--	13.9	42.8	Crow River
Carver	28,310	100	--	0	65.9	MELSA
Clearwater	8,013	--	100	0	16.4	Northwest or Kitchigami
Houston	17,556	45.5	0	0	14.9	SELCO
Hubbard	10,583	100	--	0	26.2	Kitchigami
Jackson	14,352	100	100	0	37.4	Plum Creek
Kittson	6,853	--	100	0	21.6	Northwest
Lac Qui Parle	11,164	--	100	0	35.3	Crow River
Lincoln	8,143	--	100	10.7	22.4	Plum Creek
McLeod	27,662	100	0	0	44.3	Crow River
Otter Tail	46,097	100	51.3	2.6	31.2	Lake Agassiz
Pipestone	12,791	100	100	0	50.4	Plum Creek
Pope	11,107	100	0	0	23.3	Lake Agassiz
Renville	21,139	100	53.0	4.2	25.0	Crow River
Sibley	15,845	--	0	6.7	4.6	Region 9
Stevens	11,218	100	--	13.8	50.0	Lake Agassiz
Swift	13,177	100	100	0	40.0	Crow River
Traverse	6,254	--	100	21.4	46.9	Lake Agassiz

[1]A dash indicates that there is no population in category in County.

2. Provision of information and special services, including
   - Reference services
   - Children's services
   - Special programs

3. Convenience of access, including
   - Hours of operation
   - Bookmobile service
   - Books-by-mail

4. Utilization of personnel, including
   - Educational level
   - Salaries
   - Full time vs. part time employees

Where possible, existing levels in these categories will be compared with proposed state standards for public libraries.[1]

Types of library or library systems used in these comparisons are:

1. Municipal libraries, including branches. This includes Minneapolis and St. Paul Public Libraries (members of MELSA), municipal libraries and branches of the Arrowhead and SELCO regions, and independent municipal libraries.

2. County library systems, including branches. This includes county systems of the MELSA region, Mower County of the SELCO region, and independent county systems.

3. Regional library systems, inclduing branches. This includes the eight regional systems functioning in 1973 plus the bookmobile and books-by-mail services of the Arrowhead region.

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[1] Public library Standards for Minnesota, Proposal of the Task Force on Public Library Standards, April 1974.

4.2.1 Provision of Materials

All municipal libraries show higher per capita collection sizes than do regional or county libraries (see Table 4-5), although these two types report higher percentages of budgets devoted to both total materials and audiovisual materials. Several factors should be considered, however. Regional (and some county) libraries are assimilating populations which have never before been served. This in itself rapidly reduces holdings levels per capita since populations are added but not materials. In addition, most county and regional systems are active in weeding collections; in some cases collections added to regional systems are reduced to small fractions of their pre-regional affiliation size because of this weeding.

Although small municipal libraries are the only group shown quantitatively as meeting state standards of four volumes per capita, these may well be largely unweeded collections, which qualitatively may fall substantially below the levels of viability of county and regional libraries as well as large municipal libraries. Obviously, all collections in the state need substantial reinforcing if state standards are to be met. County libraries are devoting above-standard percentages of total resources for materials, although the proportions of this materials budget used for audiovisual materials is less than half of recommended levels. Regional libraries devote a slightly larger part of materials budgets to audiovisual materials, but since total expenditure for materials are not quite up to the recommended standard, actual percentages of total budgets spent on audiovisual materials would be somewhat smaller.

Table 4-5 Comparing Levels of Service for Three Types of Libraries, Provision of Materials

Type of Library	Size of Area Served	Total Pop. Served	Volumes per Capita	Circulation per Capita	% of Budget for Materials	% of Materials Budget for A-V
Municipal (incl. Branches)	<10,000	264,648	4.08	6.24	26.1	3.8
	10,000-49,999	321,104	2.31	5.59	21.1	4.6
	>50,000	929,062	2.59	6.42	14.7	12.7
Total		1,514,814	2.79	6.21	16.6	6.7
County (incl. Branches)	<30,000	136,966	2.20	5.62	21.9	6.0
	30,000-99,999	140,796	1.74	5.14	24.2	6.6
	>100,000	910,389	1.64	6.92	22.8	9.7
Total		1,188,151	1.72	6.56	22.8	9.1
Regional (incl. Branches)	<50,000	117,576	2.24	4.91	24.6	9.2
	50,000-99,999	304,670	1.45	3.88	17.3	11.0
	>100,000	322,419	.74	2.55	18.4	9.0
Total		744,565	1.27	3.51	19.3	9.6
All Types (total)		3,447,530	2.09	5.75	19.4	8.6
State Standard			4.00		20.0	20.0

Lowest levels of expenditures for materials in relationship to total library budgets are found in all sizes of municipal libraries; audiovisual expenditures at large municipal libraries are roughly proportionate to those at county and regional libraries when considered against total expenditures.

4.2.2 Provision of information and Special Services

No state standards have been established for provision of reference services and special services such as children's and adult programs. Substantial variations in such services may be noted among the three types of libraries, as follows.

Type of Library	% of Budget Devoted to Information and Special Services
Municipal	16.5%
County	9.7%
Regional	7.4%
All libraries	12.8%

The difficulty of providing other than materials services to rural populations, as well as the relatively recent development of both county and regional systems, may be expected to affect the levels of these services. Of primary importance to the public library mission is the provision of materials, and it is logical that first emphasis must be given to purchase and circulation of materials rather than development of auxilliary services. If equitable levels of service are to be available to all groups wherever located, however, some definition of the types and levels of service which should be supplied must be developed. Suggestions for methods of improving services in this category to both rural populations and minority groups will be found in Section 4.4.

4.2.3 Convenience of Access

Hours of Operation - About half of the municipal libraries sampled in this study meet minimum recommended service hours based on population served. Large libraries and their branches were less likely to meet these standards than were smaller independent libraries. County libraries were also about equal between those meeting minimum standards and those providing less than adequate hours of services. Of all types, regional headquarters libraries were most likely to meet or exceed minimum recommended service hours, altnough regional branches tend to be substantially below recommended minimums. To insure convenience of access for library users, hours of service should be increased somewhat.

Bookmobile and Books-by-Mail Services - All three types of libraries provide bookmobile service to library users, although the level of such service, and its relation to total circulation increases rapidly with the percentage of rural population served by the library. Books-by-mail is a service offered by relatively few libraries of all types, although many of the systems serving rural populations are considering adding such services. Where used, books-by-mail programs would appear to meet the needs of specific subsets of library patrons, and provide an added dimension of access even within urban areas. In some rural areas it offers promise of serving patrons in such scattered groupings where even bookmobile service is not feasible.

Per capita circulation (see Table 4-5) tends to correlate with percentages of urban population. If circulation in rural areas is to increase, multiple types of access and more convenient bookmobile and branch library schedules are necessary.

4.2.4 Personnel

As collected, data in this study does not present a profile which permits a comparison of personnel levels in Minnesota libraries with proposed library standards. In general, however, it can be noted that in all except large urban libraries, the level of professional employment is low, and libraries are dependent upon a substantial number of part time employees. The low salaries paid in many libraries make it unlikely that personnel qualifications can be appreciably upgraded without substantial increases in salary levels. In addition, in some outstate areas there is difficulty in attracting qualified personnel because of the minimal level of cultural facilities available to them. Programs for improving personnel qualifications in outstate areas are discussed in Section 4.4.5.

4.3 Funding of Public Libraries

To place the funding of Minnesota libraries in context, it is of interest to first review briefly some national trends in the financing of public libraries and compare Minnesota with other states. With the advent of revenue sharing, a few states immediately began to consider the possibility of reducing property taxes. Although it is unclear if actual reductions resulted, the potential use of revenue sharing in lieu of the traditional property tax had implications for public libraries. But at this time it is too early to see the impact of revenue sharing on the financing of public libraries.

In recent years many states, including Minnesota, began to recognize that as in the case of public education they have an important role to play in equalizing library services to their citizens. Consequently, the proportion of funding for public

libraries coming from the state level has increased significantly over the last five years. Based on 1972 data[2], the national average for the state portion of the state-local expenditures (excluding federal funds) was 12.6 percent. In the same year Minnesota provided 4.1 percent from the state level.

Overall, including state and local contributions, the financing of public library services in Minnesota is above the national average. In 1972 Minnesota ranked 13th in the 50 states for state and local expenditures for public libraries per capita. This is in contrast to their position of 21st in 1967. Between 1967 and 1972 the national average for per capita expenditures for public libraries increased by 49 percent whereas Minnesota's average rose by 73 percent. On the basis of library expenditures per $1,000 of personal income, Minnesota ranked eighth in 1972, up from 22nd in 1967.

Again in 1972, the U.S. average for per capita expenditures (state and local) was $3.90; Minnesota was $4.67. Massachusetts had the highest average of $7.76 followed next by Wyoming at $7.34.

Given this base, identification of individual library and regional expenditures within Minnesota show wide diversity. This is demonstrated by a review of public library statistics for the state, published annually in Minnesota Libraries, which shows regional expenditures ranging from $1.78 per capita based on served population) in the Kitchigami Region to $7.67 per capita for the MELSA Region. While money, of itself, is no guarantee of quality library services, there is no question that many libraries are severely hampered by inadequate funding.

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[2] Government Studies and Systems, Inc., Alternatives for Financing the Public Library, a study prepared for the National Commission on Libraries and Information Science, May 1974.

Table 4-6 compares per capita expenditures by municipal libraries, county libraries, and regional libraries for groups of library services. Slightly over half of all expenditures statewide were made for the provision of materials, including their purchase and preparation.

Despite this proportion of expenditure on provision of materials, book collections in the state average only slightly over half of the per capita volume recommended in state standards. Materials purchases in all except county libraries represent substantially less than the recommended 20 percent of total library expenditures. The level of information and special services varies widely, but is generally inadequate to the needs of the population.

The average per capita expenditure of $5.53 statewide represents only 69 percent of the 1971 ALA recommended average of about $8.00 per capita.[3] Although a few libraries meet this level of expenditure, all averages remain substantially less, with expenditures for regional systems averaging less than one-third of recommended levels. Clearly additional funding is required if the levels of state library service are to be improved.

4.3.1 Local Support of Libraries

Statewide library statistics for 1973 show that income from local and county jurisdictions totalled slightly over $16,000,000, or about $4.67 per capita for population served. In addition, about $2,500,000 in "Other" funds were reported, including some payments by local or county jurisdictions from federal revenue sharing funds. This brings per capita library income in the state (excluding state aid) to about $5.40.

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[3] "Costs of Public Library Service 1971." Reprint from Public Library Association Newsletter, October 1971. Recommended per capita expenditure levels were $7.69 for populations of over 1,000,000 to $8.23 for populations of 200,000 or under. Inflation would obviously upgrade these figures. In this study an average figure of about $8.00 per capita has been used for purposes of comparisons statewide.

Table 4-6. Comparison of Expenditures by Type of Library[1]

Type of Library	Total Population Served	% of Total Pop	1973 Per Capita Expend.	Expenditures for Services 1973								
				Prov. of Materials[2]		Purch. of Mats.		% of Total for Prov. of Materials	Info & Services[3]		Admin & Support[4]	
				Per Cap. Exp.	% of Total	Per Cap. Exp.	% of Total		Per Cap. Exp.	% of Total	Per Cap. Exp.	% of Total
Municipal & Municipal Branches[5]	1,514,814	43.9	$6.21	$2.14	34.5	$1.06	17.1	51.6	$1.04	16.7	$0.82	13.2
County & County Branches[6]	1,188,151	34.5	6.39	1.84	28.8	1.46	22.8	51.6	0.63	9.9	0.72	11.3
Regional & Regional Branches[7]	744,565	21.6	2.43	1.27	52.3	0.35	14.4	66.7	0.18	7.4	0.54	22.2
TOTAL	3,447,530	100	$5.53	$1.84	33.3	$1.06	19.2	52.5	$0.71	12.8	$0.72	13.0

[1] Data are not complete for non-labor costs in all services.

[2] Includes circulation, intrasystem lending, interlibrary loan, bookmobile, books by mail, collection development and maintenance, materials purchase and technical processing.

[3] Includes Reference, Children's services and special programs.

[4] Includes administration, public relations.

[5] Includes Minneapolis and St. Paul from the MELSA Region, and municipal libraries of the Arrowhead and SELCO Regions.

[6] Includes county systems of the MELSA Region and Mower County of the SELCO Region.

[7] Includes Arrowhead population served by bookmobile and books by mail.

While some individual jurisdictions, particularly municipalities, provide substantial levels of local support, other jurisdictions do not appear to be providing a reasonable or equitable level of support. Current legislation provides only for a maximum limit of library support from cities. It is recommended that this maximum limit be repealed and new legislation providing a legal minimum level of support from both cities and counties be substituted. Suggested levels are 1 mill on assessed valuations for counties and an additional 1.6 mill on assessed valuations for urban areas of 2,500 population or over. No maximum permissible level of support should be stipulated. Some effort should be made, however, to insure the equitability of such a minimum support level by establishing a more uniform base of valuations such as adjusted assessed values for counties based on the methodology used for the funding of public education in Minnesota.

Using tables for the 1973 adjusted valuations as a base, it was estimated that the millage income statewide (all counties) would total about $26,700,000.[4] This provides per capita local support for the entire state population of about $7.00. If current valuations rather than adjusted values are utilized, however, support levels would be substantially lower, since comparison showed a sample of actual valuations ranging from 50 percent to 88 percent of the adjusted values.

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[4] County millage payments on an adjusted valuation of $12,937,462,685 would total approximately $12,940,000. Lacking specific urban valuations, an estimated urban valuation was calculated at 66.4 percent of total values (percent of urban population in jursidictions of over 2,500 persons). At 1.6 mills this totals about $13,750,000 or a total local and county income of about $26,700,000. On the basis of adjusted assessments this figure is undoubtedly low since urban assessments should substantially exceed the proportion of urban population. On a base of actual assessments, however, the level of support would be substantially lower.

A statewide average does not imply a uniform support level across the state since many of the outstate counties have minimal urban populations and these systems would be almost entirely dependent upon county funding. (A comparison of current local funding levels and mandatory support based on adjusted valuations for the 11 regional library systems is shown in Table 4-7.) Nor does even the substantially increased local funding base suggested as a feasible minimum for local support meet the expenditure standards recommended as minimum by the American Library Association. To provide adequate library services to all residents of Minnesota will also require the addition of substantial state funding.

4.3.2 Levels of State Support

At current support levels from local and county jurisdictions, plus "Other" income, an average per capita income for population served of $5.40 was reported in 1973. Spread over the entire state population, this is reduced to $4.90 per capita. If the total library expenditure in the state were to be increased on a statewide average to the ALA recommended minimum level (average) of $8.00 per capita, state funding aid would be required to support a minimum of $3.10 per capita at an annual expenditure of approximately $11,800,000. Mandatory minimum local funding levels could substantially reduce this differential. With an adjusted valuation base at the suggested mill rates, an average annual per capita state aid expenditure of $1.00, or about $4,000,000 would be required. Some additional funds would be needed to integrate currently unserved populations into new or existing systems.

Legislation providing mandatory minimum library support should also require that library service be provided to the entire population covered by the jurisdictional assessment. Since in many of the counties with unserved populations only the urban

Table 4.7. Comparison of Local Income 1973 and Mandatory Support on Adjusted Valuation

Region	Population Served	Total 1973 Local Income	Per Capita Income	Total County Population	Mandatory Support[1]	Per Capita Income
Crow River	49,358	$ 110,201	$2.23	49,358	$ 235,869	$4.78
East Central	83,894	123,252	1.47	87,754	271,719	3.10
Great River	206,787	343,072	1.66	222,581	803,383	3.61
Kitchigami	83,043	91,136	1.10	90,934	348,252	3.83
Lake Agassiz	85,069	188,552	2.22	90.354	475,613	5.26
Northwest	32,525	65,747	2.02	43,283	182,799	4.22
Plum Creek	60,033	275,936	4.60	106,246	617,263	5.81
Region 9	174,696	522,725	2.99	202,232	1,397,909	6.91
Arrowhead	302,939	1,287,356	4.25	322,187	1,522,245	4.72
SELCO	310,910	1,243,715	4.00	365,813	2,455,091	6.71
MELSA	1,751,782	13,242,812	7.56	1,846,070	16,038,841	8.69
Total	3,141,036	$17,494,504	$5.57	3,426,812	$24,348,984.	$7.11

[1] Based on 1 mill on adjusted county valuation (1973) plus 1.6 mill on county valuation times per cent of urban residents.

population or a part of it has legal access to library facilities, this would require county and/or municipal development of facilities to provide access for those not now served. Development of small new library systems or expansion of existing municipal facilities into a new system for a small population should be discouraged, and efforts should be made to incorporate such currently unserved populations into existing regions. To do this, it is recommended that counties joining a region (and such municipal libraries as join with it) be relieved of one-half of the required jurisdictional contribution for the first year, and one-quarter of the required contribution in the second year, with supplemental funds being supplied by the state. This would permit counties and municipalities currently maintaining systems to upgrade library contributions over a three year period. Counties joining regional systems with some hold-out municipal libraries would pay the entire county contribution to the regional system, with hold-out municipal facilities receiving only their local municipal mill rate. Such hold-out libraries electing to join the regional system at a later date should be relieved of only one-quarter of the first year required contribution.

State support should be channeled only to viable regional systems. Existing or new regions without the possibility for development into systems serving at least 100,000 population should be encouraged to merge with adjoining regions in order to meet such minimum population levels. (The proposed merger of the Northwest and Lake Agassiz and the recent federation of the Minnesota Valley and LeSueur-Waseca regions is an example of such recommended mergers.) Where state library authorities consider a region of smaller size not viable, state aid should be phased out over a three year period. Merging regions should receive a two year grant to accomplish the consolidation of the systems. Recommended levels of merger support are $0.50 per capita for the first year and $0.25 per capita for the second.

Passage of legislation providing mandatory minimum levels of support for library services throughout the state may be expected to generate substantial demands on state funds for the first two years to compensate regional systems for relieved contributions from joining counties. At least some part of unserved counties and municipalities or those with minimal support levels may be expected to take advantage of phase-in funding provisions by joining regional systems. If all eligible counties and municipalities participated at the adjusted valuation rate, state compensatory funding could well exceed $1,500,000 the first year. While this would hamper other funding programs for these years, the increased per capita funding generated by the mandatory support should more than compensate systems for a temporary loss of sustaining or upgrading funds. Table 4-7 showed the per capita local support level of the 11 regions at 1973 income levels and with the mandatory minimum level based on an adjusted valuation formula. Funds available above the requirements for compensatory funding should be used to pay for specific services and to maintain an equitable level of support in any eligible system not benefitted by the new funding program.

4.3.3 Equitable Distribution of State Funds

The Minnesota Long Range Plan[5] gives as a priority goal the use of state aid to provide a broad and consistent base of financial support in order to equalize the availability of easily accessible quality public library service. The Plan suggests a

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[5] "Minnesota Long Range Plan for Library Service, 1972," Minnesota Libraries XXIII: 10 (Summer 1972).

formula which would require approximately $4.6 million statewide, based on 3.8 million population and 80,000 square miles.

Later, another formula was recommended that would account for another factor, the ability of an area to pay, as well as the population and area. This second formula was strictly a means of distributing to the regions a previously determined total dollar amount.

The difficulty in constructing a formula that specifies the total amount of state funding as well as the distribution is the lack of firm measures on the level and quality of public library services. How much library service is needed in an area or community? The library community is not unique in such questions; society is faced with numerous questions of this type. How much defense is needed by the nation? The problem of allocating a nation's or state's resources over a whole spectrum of goods and services is most difficult and in the end requires some arbitrary judgments.

If a statewide per capita expenditure of $8.00, as suggested by the American Library Association, were adopted by Minnesota, the total cost of library service would amount to about $30 million. This represents about $10 million above the current total expenditures and, based on the $8 per capita standard, represents the gap in the funding level that the state needs to consider. While one may question the validity of such a standard, it is based on the experience and judgment of experts in the public library field and appears to be the best available figure.

In an effort to resolve the complex issues discussed above, this study included the investigation of a number of formulas for the equitable distribution of funds to regional library systems. To illustrate and compare grants under the

various proposed formulas, distributions were calculated on the basis on 1974 regions with current levels of population served. Figures for 1973 expenditures, income, and population served, are based primarily on the appropriate elements for components of the regions, derived from the "Public Library Statistics, 1973.[6]

Composition of the 11 library regions is shown in Table 4-1. The Plum Creek and Region 9 systems have been organized only recently and are not yet fully operational. The Region 9 system incorporates the old Minnesota Valley and LeSueur-Waseca regions as well as two county library systems and several municipal libraries from two additional counties. Plum Creek Region is based primarily on two county library systems with municipal libraries from four additional counties. Characteristics of these 11 systems, as tabulated in Table 4-8, were used as the base for calculations in developing expenditure estimates. It must be recognized, however, that additions, deletions, or mergers in these systems will alter both specific calculations and total expenditures projected.

Six of the existing regions are consolidated, functioning as integrated systems with multiple service points. The other five regions are essentially federations of county and/or municipal library systems with local control and administration. It is expected that funds distributed to regional systems will be utilized for region-wide activities, and not allocated to individual components of the system except for service performed for the entire system.

4.3.3.1 Formula 1: The OPLIC Formula

In 1973 the State Board of Education approved a basic formula for distribution of state library funds. To be applied

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[6] "Public Library Statistics, 1973," Minnesota Libraries vol. 24 no. 5 (Spring 1974).

Table 4-8. Characteristics of the Regional Library Systems

Region	Population Served	% of Area Population Served	% of Total Popul. Served by Regions	Area Served (sq.miles)	% of Total Area Served by Regions	Pop. per sq. Mile	% of Pop. Served which is Farm Pop.	Per Capita Adjusted Valuation[1]	Per Capita Income	% of Served Pop. with Income below Poverty Level	Per Capita Library Expenditure
[illegible]	49,194	100	1.6	1,402	2.7	35.2	61.1	$3,000	$2,444.	15.2	$3.07
[illegible]	83,484	95.6	2.7	5,191	10.1	16.2	80.3	2,662	2,362.	14.3	2.67
[illegible]	248,787	92.9	8.0	4,912	9.5	42.1	58.5	2,587	2,263.	13.1	2.98
[illegible]	33,243	91.3	2.6	6,002	11.6	13.8	64.0	2,662	2,205.	19.0	1.78
[illegible]	82,049	94.2	2.7	3,226	6.3	26.4	43.4	2,940	2,462.	15.1	2.99
[illegible]	22,525	75.1	1.0	2,791	5.4	11.7	50.8	2,727	2,312.	17.6	3.39
[illegible]	60,033	54.5	1.9	1,929	3.0	39.3	39.9	3,810	2,559.	14.4	4.31
[illegible]	176,696	80.4	5.6	3,185	6.1	55.2	36.5	3,744	2,739.	12.0	3.29
[illegible]	302,119	94.8	9.6	17,413	33.8	18.5	35.6	2,409	2,671.	11.2	4.03
[illegible]	310,910	89.0	9.9	3,616	7.0	50.6	31.4	3,345	2,888.	9.7	3.67
[illegible]	1,731,782	94.9	55.8	2,335	4.5	750.1	4.9	3,446	3,632.	6.6	7.67
Total	3,141,036	91.7	100.0	51,574	100.0	60.9	53.8	3,354	$3,037.	9.7	5.76
[illegible]	3,447,510	90.6	87.5	79,299	65.0	48.0	28.5	3,400	3,052.	10.7	5.51

[1]Based on per capita valuations for counties included in each region.

to all funds available after allocations for categories of aid stipulated by law, establishment grants, and special high priority items, the formula includes the following factors and weights:

Population	60%
Area	15%
Valuation	25%

Applying this formula to the regions as described in Tables 4-1 and 4-8 to an assumed distribution of $1,500,000, the distribution of funds shown in Table 4-9 was developed.

Methodology - Population is based on the proportion of each system's served population to the served population of the eleven systems. Area is based on each region's proportion of the total served area. Valuation uses the inverse of per capita adjusted valuations.

4.3.3.2 Formula 2: Variations on the OPLIC Formula

The difficulties of equitable application of a formula based on property valuations suggest the possibility for utilizing some other measure of ability to meet library costs. Two factors have been considered to establish Formulas 2A and 2B:

a. Per capita income
b. Number of population with incomes below the poverty level.

Utilizing the same basic proportions of total distribution for population and areas, Table 4-10 shows a comparison of distribution of the 25 percent valuation factor by these factors representing ability to fund locally, and the total per capita grants resulting from these distributions. As may be noted, there

Table 4.9 Distribution of State Funds - OPLIC Formula[1]

Region	60% Population (Proportion x.6)	15% Area (Proportion x.15)	25% Valuation (Proportion x.25)	Total %	Amount of Grant	Grant Per Capita
Crow River	.94	.407	2.250	3.597	$53,955	$1.09
East Central	1.60	1.510	2.550	5.660	84,900	1.01
Great River	3.95	1.429	2.625	8.004	120,060	.58
Kitchigami	1.59	1.746	2.550	5.886	88,290	1.06
Lake Agassiz	1.62	.939	2.300	4.859	72,885	.86
Northwest	.62	.809	2.500	3.929	58,935	1.81
Plum Creek	1.15	.445	1.775	3.370	50,550	.84
Region 9	3.34	.921	1.800	6.061	90,915	.52
Arrowhead	5.79	5.064	2.825	13.679	205,185	.68
SELCO	5.94	1.051	2.025	9.016	135,240	.43
MELSA	33.46	.679	1.800	35.939	539,085	.31
Total	60.0	15.0	25.0	100.0	$1,500,000	Av.$.48

[1]Based on distribution of $1,500,000.

Table 4-10 Distribution of State Funds - Variations on the OPLIC Formula [1]

Region	Total Per Capita Grant		
	60% Population 15% Area 25% Per Capita Income (Formula 2A)	60% Population 15% Area 25% Poverty Level (Formula 2B)	50% Population 50% Per Capita Income (Formula 2C)
Crow River	$1.14	$1.18	$1.69
East Central	1.00	.99	1.12
Great River	.58	.59	.61
Kitchigami	1.07	1.16	1.17
Lake Agassiz	.87	.89	1.07
Northwest	1.66	1.85	2.56
Plum Creek	1.08	1.11	1.36
Region 9	.54	.53	.61
Arrowhead	.65	.63	.46
SELCO	.43	.41	.44
MELSA	.31	.30	.27
Total	$1,500,000	$1,500,000	$1,500,000

[1] Based on distribution of $1,500,000

is only a small amount of variation from the use of adjusted valuation for per capita income, but the poverty level factor creates substantial variations in a few regions.

Methodology - Calculations for per capita income distribution were based on an inverse proportion. Poverty level distribution uses the proportion of the total served population in the region. These proportions multiplied by .25 produce the valuation/per capita income/poverty level factors for 25 percent of the total grant.

A further variant of the OPLIC formula, Formula 2C, alters the proportion of distribution for factors considered and eliminates area as a factor. This is based on findings of the cost study.

The study indicated that unit cost of combined circulation, which represents a high proportion of total library expenditures, is higher in regional libraries than in municipal or county systems, as follows:

Type of Library	Unit Cost for Combined Circulation
Municipal libraries & branches	15¢
County libraries & branches	22¢
Regional libraries & branches	26¢

Combined circulation includes costs for circulating materials at libraries, by bookmobile, and by mail. The higher costs of bookmobile and mail circulation would appear to be responsible, at least in part, for the higher unit costs in county and regional libraries, with the greater distances and lower population per square mile in regions a factor in making regional costs higher. Per capita circulation is the most important factor in defining per capita costs for circulation services, however, and per capita

costs for combined circulation tend to be in inverse relationship to unit costs for these services. This suggests that at present area tends to neutralize itself as a factor for correction, and that population and the ability to fund library services may be the essential factors in an equitable distribution on the basis of

Population	50%
Ability to Fund	50%

As above, the ability to fund may be defined in terms of adjusted valuation, per capita income, or poverty level.

Using per capita income as an example, Table 4-10 also shows a distribution of funds under Formula 2C. Methodology is the same as for Formulas 2A and 2B with 50 percent applied to population and 50 percent to per capita income.

4.3.3.3 Formula 3: The Differential Payment Plan for Upgrading Library Expenditures

Formula 3 considers three factors:

1. The need for some level of sustaining support.
2. The need to upgrade library expenditures to meet state standards for library service.
3. The ability of jurisdictional resources to support library services at an equitable level.

Basically the formula provides state support to regional systems in two parts: a fixed rate per capita grant for population served, and a differential payment for upgrading library expenditures. The element of ability to pay is based on actual income potential rather than on predictive factors, such as valuation on per capita

income; and the differential payment involves a fixed percentage of the difference between expenditures for the previous year and state average library expenditures for the same period.

Methodology - The amount of state aid for each region is calculated in three steps.

Step one: determining the projected regional expenditure.

1. Subtract the per capita regional expenditure for the previous year from the state average per capita expenditure (negative values equal zero).

2. Multiply the difference by the established percentage, and add to the figure from the previous year. This determines the projected per capita expenditure.

3. Multiply the projected per capita expenditure by the number of persons served (legally) to establish the projected total budget for the year.

Step two: adjusting for local contribution.

1. Determine the amount of local contribution. This can be done by calculating legal minimum funding requirements (if in effect) or by establishing base local requirements for eligibility for state aid. A two year phase-in might be provided where substantially increased local support levels are mandated.

2. Subtract the required local contribution from the projected total budget determined in step one to provide the balance required.

Step three: determining the amount of state aid.

1. Multiply the total served population by a pre-determined amount for state sustaining funding. If the amount of the per capita sustaining grant exceeds the balance required as determined in step two, this is the amount of state aid paid to the region.

2. If the per capita sustaining grant is less than the amount of the balance required, a second differential grant will be added, and the sum of the per capita grant and the differential grant will be the amount of state aid provided.

Table 4-11 illustrates the application of this formula with per capita sustaining grants of 30 cents (to maintain current levels of state aid) and an upgrading differential of 25 percent (Formula 3A). Local contribution is calculated as the sum of all income, exclusive of state aid, in 1973. Adoption of a legal minimum or an established base minimum for eligibility should increase the amount of this local contribution (see Table 4-7 Comparison of Local Income 1973 and Mandatory Support on Adjusted Valuation), and reduce the total volume of state differential aid required. Table 4-12 shows application of the formula with a 50 percent differential upgrade (Formula 3B). State aid under Formulas 3A and 3B would be $1,731,775 and $2,434,126 respectively.

Application of the formula in successive years will gradually bring the state average for library expenditures to the ALA recommended average. When the state average reaches the current recommended ALA average, all calculations could be based on differentials from that figure rather than on state averages. Expenditures made by the state for statewide library services should be subtracted from the recommended per capita expenditures in establishing the expenditure base for differential calculations.

4.3.4 Summary of Recommendations and Costs

Reviewing the formulas both in terms of greatest benefit to library development in Minnesota and to most equitable distribution of state funds suggests that Formula 3 would prove most effective. Establishment of a fixed per capita contribution as a sustaining funding level would provide a dependable measure for fiscal

Table 4-11. Formula 3A - Per Capita Sustaining Grant Plus 25% Differential Grant

Region	Population Served	1973 Per Capita Expenditure	+ 1/4 Difference State Av. Exp.	= Projected Per Capita Expend.	Total Projected Expenditure	- Local (1973) Contribution[1]	= Balance Required	- State Per Capita Grant (.30)	= Differential State Grant	Total State Aid	Per Capita State Aid
Crow River	49,158	$ 3.07	$ .62	$ 3.69	$ 182,131	$ 110,201	$ 71,930	$ 14,807	$ 57,123	$ 71,930	$ 1.46
East Central	83,894	2.69	.71	3.40	285,240	123,252	161,988	25,168	136,820	161,988	1.93
Great River	206,787	1.96	.89	2.85	589,343	343,072	246,271	62,036	184,235	246,271	1.19
Kitchigami	83,043	1.81	.93	2.74	227,538	91,136	136,402	24,913	111,489	136,402	1.64
Lake Agassiz	85,069	2.99	.64	3.63	308,800	188,552	120,248	25,521	94,727	120,248	1.41
Northwest	32,525	3.30	.56	3.86	125,547	65,747	59,800	9,758	50,042	59,800	1.84
Plum Creek	60,033	4..	.30	4.63	277,953	275,936	2,017	18,010	-	18,010	.30
Region 9	174,696	3.20	.58	3.78	660,351	522,725	137,626	52,409	85,217	137,626	.79
Arrowhead	302,939	4.53	.25	4.78	1,448,048	1,287,356	160,692	90,882	69,810	160,692	.53
SELCO	310,910	3.67	.47	4.14	1,287,167	1,243,715	43,452	93,273	-	93,273	.30
MELSA	1,751,782	7.67	-	(Eligible only for 30¢ per capita grant)					-	525,535	.30
Total	3,141,036				$ 5,392,118	$ 4,251,692	$1,140,426	$ 942,312	$ 789,463	$ 1,731,775	Av. $ .55

Table 4-12. Formula 3B - Per Capita Sustaining Grant Plus 50% Differential Grant

Region	Population Served	1973 Per Capita Expenditure	+ 1/2 Difference State Av. Exp.	= Projected Per Capita Expend.	Total Projected Expenditure	- Local (1973) Contribution[1]	= Balance Required	- State Per Capita Grant (.30)	= Differential State Grant	Total State Aid	Per Capita State Aid
Crow River	49,316	$ 3.07	$ 1.23	$ 4.30	$ 212,239	$ 110,201	$ 102,038	$ 14,807	$ 87,231	$ 102,038	$ 2.07
East Central	83,894	2.69	1.42	4.11	344,804	123,252	221,552	25,168	196,384	221,552	2.64
Great River	206,787	1.96	1.79	3.75	775,451	343,072	432,379	62,036	370,343	432,379	2.09
Kitchigami	83,043	1.81	1.83	3.64	302,277	91,136	211,141	24,913	186,228	211,141	2.54
Lake Agassiz	85,069	2.99	1.27	4.26	362,394	188,552	173,842	25,521	148,321	173,842	2.06
Northwest	32,525	3.30	1.12	4.42	143,761	65,747	78,014	9,758	68,256	78,014	2.40
Plum Creek	60,033	4.33	.60	5.03	301,966	275,936	26,030	18,010	8,020	26,030	.43
Region 9	174,696	3.20	1.17	4.37	763,422	522,725	240,697	52,409	188,288	240,697	1.38
Arrowhead	302,939	4.53	.50	5.03	1,523,783	1,287,356	236,427	90,882	145,545	236,427	.78
SELCO	310,910	3.67	.93	4.60	1,430,186	1,243,715	186,471	93,273	93,198	186,471	.60
MELSA	1,751,782	7.67	(Eligible only for 30¢ per capita grant)			-	-	525,535	-	525,535	.30
Total	3,141,036				$6,160,283	$4,251,692	$1,908,591	$942,312	$1,491,814	$2,434,126	Av. $ .77

[1]Based on actual 1973 income other than state aid.

planning by the regional systems. As regions are presently constituted, the cost of this funding would total something less than $1,000,000. Remaining available funds could then be distributed for upgrading per capita expenditures in eligible regions.

Utilizing an equitable measure of the ability of jurisdictions to support library service, with some means of enforcing contributions at the established level, should permit upgrading of library support throughout the state while moving toward improved equalization of funding, and hopefully, services, for all residents of the state.

Costs of State Library Support

Projections of costs for state aid programs can only be suggested, since variables in composition of regions and absolute values of support are not predictable. The three year projection of costs (Table 4-13) for developing a program of gradual upgrading and equalization of library expenditures is based on the following assumptions:

1. 1st Year - Aid for 1975 is based on 1974 composition of regional systems (Table 4-1) and 1973 base cost data. No change in local funding patterns or regional populations are calculated.

2. 2nd Year - Passage of mandatory minimum funding legislation is anticipated by 1976 and calculations for that year will consider local funding at that level (Table 4-7). Unserved populations in the counties currently represented in regional library systems will be served by the regional system. Hold-out libraries in the regions will continue to remain independent. Unserved populations in unaffiliated counties (181,336) will be added to appropriate regional systems and county funds will be added to regional revenues. State compensation for onehalf the sum of minimum county payments will be made to the regions.

Table 4-13. Schedule of Costs of State Aid Three Year Period

1st Year	
Total population in regional systems	3,141,036
Sustaining grant @ $0.30 per capita	$ 942,000
Differential grant @ 25% ($5.53 base) (8 systems eligible - See Table 4-11)	790,000
Total State Aid to Regional Systems	$ 1,732,000
2nd Year	
Total population in regional systems	3,445,460
Sustaining grant @ $0.30 per capita	$ 1,034,000
Compensatory grant for unaffiliated counties (50%)	473,000
Differential grant @ 25% ($6.03 base) (5 systems eligible)	139,000
Total State Aid to Regional Systems	$ 1,646,000
3rd Year	
Total population in regional systems	3,473,687
Sustaining grant @ $0.30 per capita	$ 1,042,000
Compensatory grant for unaffiliated counties (25%)	237,000
Differential grant @ 25% ($7.62 base) (8 systems eligible)	536,000
Total State Aid to Regional Systems	$ 1,815,000

3. 3rd Year - Some of the smaller independent libraries within regions may join the regions (particularly those in villages below 1000 population), and a slight increase in total population served by the regions is anticipated. Some independent county systems may also join regional systems at this time. Because of the greater uncertainty of joining by most municipal and county systems now providing service, no costs have been calculated for their admission to systems in the three year period. Current operating revenues which would be assigned to regional systems upon joining may be expected to bear a large part of the necessary support, and only the cost of compensating for relieved contributions would be a substantial added expense to the state.

Costs to the state in each of the three years runs between $1,500,000 and $2,000,000. A slight dip may be noted in the second year as improved levels of local funding permit a 25 percent upgrading of library expenditures at less than one-fifth of the cost of differential grants of the previous fiscal year. Costs for differential grants in the third year reflect growth from the new stabilized minimum funding. Some alterations will be made as new units join regions or as regional systems merge or realign. Annual increases in expenditures for differential support may be expected for several additional years before some stability in funding levels may be achieved.

4.4 Equalization of Services

Providing reasonable and convenient access to information resources is the basic goal of library service. Some persons are denied this access because there are no facilities legally available to them. Others, with legal access to services, are functionally deprived of them because of locations of facilities, hours of operation, lack of needed services, etc. Service to rural populations has necessitated carrying library services beyond the library walls, through bookmobile or books-by-mail programs.

Urban areas extend the services offered beyond the simple provision of materials. Four broad categories of services are generally recognized:

1. Provision of materials
2. Provision of information (reference service)
3. Children's services
4. Special programs (usually designed for but not restricted to adults).

All public libraries are primarily concerned with the first category, provision of materials, although considerable variations in holdings are apparent. The number of volumes available to users of different libraries ranges from less than one volume per capita to more than four.

Most librarians also feel varying degrees of responsiblity for some level of service in the other categories. An even greater disparity is seen here, with little or no service in these categories available to most rural populations.

All librarians interviewed were firmly committed to the need for provision of reference services, and several regional directors specifically noted the problems of trying to provide such services via bookmobile. A review of data collected would indicate that except for a few large urban libraries, most reference questions answered by local libraries are title, author, or subject requests or general reader's advisory questions, with some simple fact questions, frequently dealing with local issues. The limited bookmobile reference provided was usually materials-oriented.

More variations in attitude were noted in discussions on provision of children's services. Although all libraries reporting provided juvenile collections, a few offered no other children's services. Most, however, offered at least some

schedule of pre-school story hours. Summer reading programs for children also found various degrees of emphasis, with some librarians firmly committed to the programs as a positive measure for retention of reading skills during non-school months and others calling such programs old-fashioned and ineffective. Adult services or special programs also varied although few libraries reported any appreciable schedules of such activities. Problems of providing such services to largely rural areas were again noted, with some regions reporting use of radio and/or television as media for reaching both adults and children.

Apart from funding, population density would appear to be the most important factor in providing all four of the categories of services, with largely rural systems in general offering the lowest per capita volume of services in all groupings. Equalization of library services, then, is not only a matter of equalizing funding but also a problem of equalizing access to services, or put another way, of getting together the user and the service. This is particularly the case in considering the problem of serving the largely rural legally unserved.

4.4.1 Characteristics of the Legally Unserved

Although 91.7 percent of the population of Minnesota has legal access to library services, this access varies greatly with both location by county, and residence in urban areas, villages, and rural areas. Almost all residents of urban areas (99.6 percent) have some level of public library services available to them. Villages or towns of 1,000 to 2,500 population also supply a high percentage of their residents (89 percent) with public library facilities. Rural populations, however, are ill served, with less than three quarters (72 percent) of the population in small villages or on farms having any legal access to library facilities, including bookmobiles and books-by-mail programs.

Residents lacking access to library services are concentrated in 31[7] of the 87 Minnesota counties, with levels of unserved in these counties ranging from 95 percent to 34 percent; an average of 61 percent of the population in these counties lack library facilities of any kind. A high degree of correlation may be noted between size of urban population in counties and percent of population served. While only 7 percent of the urban population in the 31 counties remain unserved, 28 percent of village populations (1,000 - 2,500 persons) are unserved and 96 percent of the rural populations (small villages and farms) are unserved. Table 4-14 compares characteristics of the counties providing library services to total populations and those with unserved populations. In addition to being largely rural and with appreciably lower total population density, the counties with unserved populations are substantially poorer in average personal income and have an appreciably higher proportion of population with incomes below the poverty line.

Over half of the counties, with almost half of the unserved population, are found in the west-southwest regions of Minnesota, with another ten counties located in the south-southeast. This ten county area accounts for about 36 percent of the unserved population in the state. Here, however, population density tends to be higher than in the southwest, although still well below state averages in most counties. Per capita income is also somewhat higher than in the southwest, although again, below average per capita incomes and above average percentages of poverty incomes are also found in this areas.

The four counties with unserved populations in the northwest have among the highest percentages of rural population and poverty level incomes, and among the lowest population densities and per capita incomes. Table 4-15 shows locations of the 31 counties having unserved populations within the 11 state regions.

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[7] Although Winona County is included in this figure with 36% of population unserved, the entire county is now served in the SELCO region and data for it in this section are no longer relevant.

Table 4-14. Comparison of Characteristics of Counties with Populations Fully or Partially Served by Public Libraries[1]

	Total State	Counties Fully Served	Counties Partially Served
No. of Counties	87	56	31
Total Pop.	3,804,971	3,264,420	540,551
% of Total Pop.	100	85.8	14.2
% of Persons in Pop. Below Poverty Income	10.7	9.6	15.9
Per Capita Income	3,052	3,152	2,448
Pop. per sq. mile	48	58.2	23.3
% of Pop. urban	66.4	72.7	28.6
% of Pop. in area 1000-2500 persons	5.1	3.7	13.6
% of Pop. in rural areas	28.5	23.6	57.8
% of Urban Pop. unserved	.43	0	7
% of Pop. in areas 1000-2500 persons unserved	10.5	0	27.8
% of rural pop. unserved	27.7	0	96.1
% of total pop. unserved	8.7	0	61.3

[1]Population data based on 1970 Census. Library service data based on "Public Library Statistics, 1973", Minnesota Libraries, vol.24 no.5 (Spring 1974).

Table 4-15. Distribution of Unserved Population by Region

Region[1]	Total Population	No. of Counties	Unserved Population			Counties with Unserved (% Unserved)	Regional Library Systems in Area
			Counties	Persons	Total		
I	94,579	7	2	16,134	17.1	Kittson (78.4%) Marshall (82.4%)	Northwest
II	54,594	5	2	14,510	26.6	Clearwater (83.6%) Hubbard (73.8%)	Northwest Kitchigami Arrowhead
III	329,603	7	0	--	--	--	Arrowhead East Central
IV	185,376	9	5	53,007	28.6	Traverse (53.1%) Stevens (45%) Pope (76.7%) Wilkin (55.3%) Otter Tail(67.1%)	Lake Agassiz
V	113,624	5	0	--	--	--	Kitchigami Great River
IV E	98,159	4	2	32,691	33.3	McLeod (55.7%) Renville (81.7%)	Crow River
VI W	61,809	5	3	19,668	31.8	Big Stone (57.2%) Lac Qui Parle (64.7%) Swift (60%)	Crow River
VII	249,869	9	0	--	--	--	East Central Great River
VIII	141,532	9	7	56,404	39.9	Lincoln (77.6%) Redwood (62.8%) Rock (58.5%) Pipestone (49.6%) Cottonwood (44.4%) Murray (71.4%) Jackson (62.6%)	Plum Creek
IX	216,077	9	3	39,191	18.0	Faribault (68.1%) Brown (34.1%) Sibley (95.4%)	Region 9
X	383,369	11	6	79,542	20.7	Goodhue (49.2%) Wabasha (53.2%) Dodge (67.8%) Winona (36.1%) Houston (85.1%) Fillmore (61.5%)	SELCO
XI	1,874,380	7	1	20,123	1.1	Carver (71.1%)	MELSA
TOTAL	3,804,971	87	31	331,270	8.7		

[1] Regions are those used in Figure 3, p. 28, Poverty in Minnesota, Governor's Office of Economic Opportunity, State of Minnesota, August 1972.. (See Section 4.1)

4.4.2 Initiating Service to the Unserved

Provision of services to presently unserved populations will require substantial initial and continuing investment of state and local funds if meaningful levels of library service are to be provided in sparsely populated areas. Interviews with regional directors, particularly in the western part of the state, have indicated that political jurisdictions, especially counties, are reluctant to provide funding at more than a minimal level. In addition, poorer counties with little current library service have no strong incentive to voluntarily generate funding for added services when there is an apparent low level of demonstrated public demand. Given the state's objective to provide access to library services to all its citizens, it therefore becomes the responsibility of the state to require mandatory levels of local support.

In Section 4.3, Funding, recommendations have been made for an equitable contribution from local jurisdictions by legislation establishing a mandatory minimum level of support. The use of Formula 3 for distribution of state library funds would provide for gradual equalization of funding above the available local support. Passage of such legislation, with its requirement to supply library services to all persons within local jurisdictions, eliminates at a stroke the category of legally unserved. Providing meaningful levels of service to those currently excluded is, however, another problem.

It may be anticipated that under phase-in funding provisions for counties joining regional systems (Section 4.3), many of the counties with large unserved populations might elect to join regional systems rather than to establish facilities or services

of their own to serve these largely rural populations. Initial response of regional systems could be expected to include bookmobile service, and in some cases, books-by-mail programs. New service points might be added in appropriate locations. Lacking mandatory funding levels, service could be introduced to these unserved rural populations by demonstration bookmobile services, from which it is anticipated that the level of use, documenting the latent demand, could generate support for continuance of the service after the demonstration period. Possibly, state-operated books-by-mail programs could provide needed materials and ILL services directly to unserved populations.

While these services would certainly fill hitherto unmet needs by providing access to some library materials, the problems of supplying more equitable levels of service to all rural populations throughout the outstate regions remain. Moving beyond the library walls to bring library materials to scattered users has been an important first step in serving rural users. Other beyond-the-walls steps are needed if more complete services are to be provided. Some of these may be most cost-effectively provided on a statewide basis.

4.4.3 Improving the Levels of Service for Rural Populations

Provision of Materials. Bookmobile service has permitted at least minimum levels of service to scattered populations. There is some evidence that as their interest increases, some bookmobile users will seek materials at regional service points in order to expand the selection available to them. But not everyone is able to go to the needed or desired materials. Limited bookmobile schedules restrict full use by even nearby residents, and in some areas population is too scattered to warrant stops.

Books-by-mail services have attempted to fill this gap in some regions, and public response to the program indicates that it is meeting specific needs that may otherwise go unsatisfied. However, variations among libraries in determining the public's eligibility for the service appear to be unfortunate. In some cases, only areas where no other service is available are provided books-by-mail service. Such constraints inhibit access where more conventional library facilities cannot service individual needs. Multiple points of access are required if individual needs are to be considered. It is suggested that a statewide books-by-mail program, with materials available to any resident of the state, would more satisfactorily meet the goal of convenient access.

It is further recommended that a single books-by-mail facility be developed, possibly at a regional headquarters facility, which would serve the entire state. Such a centralized facility should permit the most cost-effective operation, as well as a wider variety of materials with substantially less duplication. For outstate, home-bound, or other users without convenient access to a conventional library, the facility should also provide the point of access for interlibrary loans for other library materials.

Schools in rural areas provide another alternative access point. In many of the currently unserved areas, school libraries are virtually non-existent. Coordinated development of school-public library service points in these areas might well permit total community access to materials, with shared costs reducing per capita expenditures. For more effective development, organization of joint school-public libraries should be accomplished within a regional library system which could provide rotating collections of adult materials as well as juvenile materials beyond educational core requirements. This could provide good access to materials in areas where sparse population and low circulation volume could not support collections of any great size.

Local school districts and communities should share development of facilities for this service. While high schools probably provide the most suitable ambience for a joint facility, convenience of access to the total using community should be the prinicpal criterion for location. Regular summer schedules should be developed, and school bus service to the facility during non-school periods might well be provided on a weekly basis if reasonable response could be developed.

Flexible time scheduling throughout the year should insure availability of services before and after school or community events which attract adult audiences. Such extra library hours might be staffed by volunteers or OEO funded employees where budgets do not provide adequate funds.

Finally, service points associated with area shopping patterns might well be explored. Since service to widely scattered small groups by bookmobile is not always possible, a rotating footlocker collection of paperbacks (with books-by-mail and other library promotional literature prominently attached), made available at area shopping facilities, might also serve to introduce service to sparsely settled areas.

Provision of Information Services

Unfortunately, information (or reference) services cannot be packaged in a footlocker. Provision of this service on more than a simple reader or catalog advisory basis required trained personnel and adequate reference tools. Few outstate libraries,

particulary in rural areas, are generously provided with either. Backup facilities for reference services are currently provided by MINITEX via an in-WATS telephone line available to regional libraries. While this aids regional libraries in answering reference requests for which local reference collections are inadequate, it does not at all meet the needs of those individuals lacking reasonable access to substantial library facilities.

Information service, unlike interlibrary loan, is not receptive to hierarchical handling; a direct interface between questioner and resource is usually necessary to provide satisfactory answers. In discussions with regional directors serving large rural populations, one noted that possibilities were being considered for expanding reference services to bookmobile users by means of a radio-telephone link between bookmobile and regional library. Toll-free telephone access to the regional library for all users in the region was also discussed. Implementation of this program would require addition to the staff of a qualified reference librarian and expansion of the regional library reference collection.

Solving the problem of reference access on a regional level, however, would be costly and duplicative. With current low funding levels and strong pressures to improve collections (which in 1973 averaged only 1.4 volumes per capita), it is unlikely that such projects could reach early fruition. More feasible, and more cost-effective, would appear to be the expansion of the already established MINITEX reference service, permitting all residents of the state direct access to the toll-free telephone service.

There are other benefits to be gained from such a toll-free information number properly publicized. Studies of urban

information needs in Baltimore, Maryland,[8] where an excellent public research library is located, indicated that few individuals thought of libraries as other than providers of materials. Development of a stateside telephone reference service in Connecticut[9] has attracted a substantial number of non-library users in the successful experimental program nearing the end of its first year there. Contrary to fears expressed by librarians in the state prior to beginning the system, the telephone service has expanded rather than adversely affected local library demands. Reference librarians manning the telephone lines refer users to their local libraries for additional information and for most necessary materials. (Photocopies up to ten pages are supplied directly.) Local facilities supplying telephone reference service have experienced such an increase in demand that in some cases more lines have had to be added. The need to go to local libraries to secure recommended materials or interlibrary loans has also brought numbers of former non-users into libraries, and increased circulation. About half of the questions asked of Library Line are answerable on the phone. The other half require provision of materials through the local library.

Children's Services

As noted earlier, there is wide disagreement among librarians with regard to the educational efficacy of public library services to children, although all provide juvenile collections and most at least some level of children's services.

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[8] Warner, Edward S., Murray, Ann D., and Palmour, Vernon E., Information Needs of Urban Residents, a study for the U.S. Department of Health, Education, and Welfare, Regional Planning Council and Westat, Inc., December 1973.

[9] Connecticut Library Line. Established as an experimental project in mid-November 1973, this highly effective toll-free telephone reference service now employs 10-12 qualified reference librarians on a 9-9 Monday thru Friday and a 9-5 Saturday schedule. An answering service takes messages after hours. A special collection of reference tools is utilized plus collections of the State Library. Information is also secured when necessary from other resources both within and outside the state.

In establishing programs for children's library services, definitive answers to this question would be most helpful. A joint school public library study of the impact of library services in developing and retaining reading skills in children, performed over a sufficient period of time to provide adequate controls and testing to measure such effects could supply valuable guidance to the role of the public library in this area. In depth analysis of such variables as family reading patterns, varying provision of children's services at school and public libraries, teacher's attitudes to library services, volume and type of television exposure, as well as demographics should be included to make accurate evaluation possible.

Although certainly less than definitive, a look at children's services vis a vis children's circulation in some of the sampled libraries suggests a correlation between them. Regardless of educational benefits, then, if would appear that children's services do develop library users among children, and hopefully promote their continued accession of information through the public library as adults.

Providing such services to non-urban children again presents the need for new points of access. Some regions are attempting to meet this and other information needs of rural populations through local radio and cable television programs. Unfortunately, cable television coverage at present is inadequate to reach most of the areas where library service is least available, and use of network television is needed to provide service to substantial numbers of the population. Clearly this is not a locally or even regionally feasible project. Statewide television and radio programs carried on network channels are necessary.

Children's television programs should primarily be oriented to familiarization with, and promotion of, juvenile library materials of all kinds. They should stress participation, or "over the

shoulder" demonstration. For example, in story hour programs primary stress should be on following the text and pictures with the reader; a program demonstrating microfiche should explain the medium and its use, show various fiche, and then peer into the viewer to see it in use, etc. Such programs should be identified as state library service programs but should also feature local area station "commercials" promoting the facilities and services of local and regional library systems, describing materials and services available, providing location information, hours of operation, and bookmobile schedules, and urging visiting and using these facilities.

Obviously, such programs would also reach the urban child, but here they should be used to supplement rather than subordinate or replace children's service,s including local radio subordinate or replace children's services, including local radio where trained children's librarians are not available, packaged programs might also be prepared at the state level for use by any library requesting the service.

Adult Programs

Television and radio programming on a statewide level is also appropriate for providing adult services, although here basic programs should be information rather than materials oriented. Speakers, films, panels, etc. covering important current topics of statewide interest or importance should be coordinated with materials available in these subject areas in the library facilities. Although offered statewide periodic programs should meet specific needs of some subset of the population such as farmers, professionals, educators, parents, etc.

Again, programs should include local area identification of facilities, hours, and services, as well as identification of specific materials available in these facilities in the subject area of the presentation. Availability of toll-free reference services and books-by-mail programs should also be publicized. In addition, package programs for local use might well be supplied from the state level.

Most people have telephones, radios and television; all have mail service. Where there are children there must be schools, and everyone uses some shopping facilities. Providing needed information and materials through some or all of these points of access should help insure reasonable and convenient access to library services for all.

4.4.4 Meeting the Needs of Minority Groups

Most of the minority groups in Minnesota are found in urban areas with libraries serving them usually developing special collections to meet their needs. Exceptions to this are the Indian populations on reservations and the Spanish-speaking migrant farm workers who are found in the outstate regions.

Collection efforts for Indian materials were mentioned in most of the regions, but service to Indian groups was defined as negligible, primarily because Indians were unwilling to avail themselves of facilities provided. Since there would appear to be a cultural reluctance to utilize common facilities, an experimental program, in cooperation with the U.S. Department of the Interior, Bureau of Indian Affairs, to provide a rotating collection of adult materials to an Indian school library to test this method of reaching the Indian population might be tried. For maximum effectiveness it is suggested that Indians be trained

to operate the facility and that materials be carefully selected for relevance to the needs and interests of the group served. Attempts should be made to develop substantial tape collections of Indian narration and history, recorded by respected older members of the tribal community, as a basic part of the collection. Indians served on the reservation should also be allowed unrestricted access to non-reservation facilities, and collection of Indian materials continue at off reservation locations, not only for Indian use but for better understanding by non-Indian users of the culture of their neighbors.

Serving the Spanish-Speaking Migrant Workers

Some parts of the outstate agricultural regions employ substantial numbers of Spanish-speaking migrant workers, and the number appears to be increasing. Several regional librarians discussed the necessity for collecting Spanish-language materials for these users but no substantial collections had yet been developed. Service to these groups has primarily been by bookmobile. It is suggested that Spanish-language (particularly Mexican) paperback materials permit the development of larger collections of materials for these part-year users than would be otherwise possible, in addition to providing a familiar format for this group of users. The paperback collections should, of course, be supplemented by available hard cover Spanish-language publications as well as by English language materials. Where large enough groups are gathered, temporary local depositories of materials available at hours convenient to working schedules should be provided. Employment and training of a Spanish-speaking person to circulate the materials would also increase the effectiveness of service.

4.4.5 Equalizing Levels of Service at Conventional Library Facilities

So far the discussion has centered on serving essentially unserved groups with poor access to conventional facilities, by providing "beyond-the-walls" points of access to information and materials. Services available to users of conventional facilities also show wide disparities in level and quality, however.

One of the essential problems of inequality of service is, of course, inequality of funding. Without adequate funds there can be neither adequate staff nor collections; additional services are infrequent and seldom substantive. Developing networks or regional consolidations of facilities and services have much improved the availability of materials and services to users within the developing regions. Improved equitability in funding, as suggested in Section 4.3 would greatly enhance the ability of these regional systems to provide more adequate levels of materials and services within the regions. But some problems remain, particularly in the area of personnel.

For some of the regional systems -- those with substantial urban centers -- funding adequate to pay the salaries needed to attract qualified personnel could solve many personnel problems. But in other, largely rural regions, even adequate salaries are frequently not enough to attract and hold the professional staff required to maintain a level of services equal to that in more urban areas. Two programs could contribute to solutions to this problem:

1. Use of specialized field consultants, and
2. Upgrading of qualifications of current personnel.

Field Consultants

The need for such qualified specialists as children's librarians and reference librarians in rural regions was noted earlier. It is suggested that OPLIC enlarge their staff of field consultants, who would regularly and frequently visit regional systems for the purpose of providing expertise in specific areas, to provide faster exchange of ideas in these areas between systems, and develop regional or inter-regional programs as requested. In addition to the areas of children's services and reference, specialists should be utilized in areas of audiovisual services and adult programs.

Centralized state support in the areas of administration, technical processing, physical facilities, and other support functions should also be provided, with consultant services in these areas available on request. A generalized program for library publicity and promotion should be developed at the state level and promotional materials made available for purchase by regional systems. Again, consultant services for development of regional publicity

Upgrading Library Personnel

In-service training and regional workshops should be supported by the state to upgrade qualifications of personnel in regional library systems. Expansion of the MINITEX continuing education program might be one which will aid in accomplishing this goal. In addition, such personnel should be encouraged to meet professional qualifications through summer school programs at qualified library schools. OPLIC should work with library schools in the establishment of appropriate summer programs to meet this goal. A limited number of library school scholarships

might also be established for recommended personnel who have at least two years of experience within a regional system and who will agree to spend another two years working in the region after qualification as a professional librarian.

State Support of Collections

Few libraries in Minnesota have substantial collections on non-print materials. The Minnesota Library Film Circuit has proven a substantial asset to libraries by providing a revolving collection of films. Some expansion of this service is necessary to satisfactorily meet expressed needs. Establishment of similar membership services to provide rotating collections of such other non-print items as audiovisual materials and oil prints and sculpture could greatly improve the variety of non-print materials available to users throughout the state.

4.4.6 Cost of Recommended Expansion of Statewide Services

Four statewide services have been recommended for immediate implementation:

1. Centralized telephone reference service
2. Centralized books-by-mail program
3. Field consultants
4. Training for library personnel.

Costs for these services have been calculated over a three year period (Table 4-16) with accelerating volumes of use estimated over the period. It must be realized, however, that volume of use of telephone reference and books-by-mail services

Table 4-16. Costs of Recommended Expansion of Statewide Services, Three-Year Period

1st year		
Field Consultant Program		
1 children's librarian @ $16,000		
Fringe benefits @ 13% =	2,100	
Travel expenses	7,500	$ 25,600
Telephone Reference Service		
5 reference librarians @ $15,000 each		
1 library assistant @	8,000	
Overhead & fringe benefits @ 50% =	41,500	
5 WATS lines @	3,840 each	143,700
Books-by-Mail Program		50,000
Continuing Education Programs		
11 workshops @ $250 each		
4 scholarships @ $2500 each		12,800
Total Expenditures for Statewide Services		$232,100
Per Capita Expenditure		6.1 cents

Table 4-16. (continued)

2nd year

Field Consultants Program		
1 children's librarian	@ $16,000	
1 A-V Specialist	@ 16,000	
Fringe benefits @ 13% =	4,200	
Travel expenses	15,000	$ 51,200
Telephone Reference Service		
7.5 reference librarians	@ $15,000 each	
1 library assistant	@ 8,000	
Overhead & fringe benefits @ 50% =	60,250	
8 WATS lines	@ 3,840 each	
Reference materials	2,500	214,000
Books-by-Mail Program		75,000
Continuing Education Program		
11 workshops @ $250 each		
4 scholarships @ $2500 each		12,800
Total Expenditures 2nd year		$353,000
*Per Capita Expenditure		9.3 cents

Table 4-16. (Continued)

3rd year

Field Consultants Program

1 children's librarian	@ $16,000	
1 A-V specialist	@ 16,000	
1 Program-publicity specialist	@ 16,000	
Fringe benefits @ 11%	[illegible]	
Travel expenses	$22,500	$ 77,000

Telephone Reference Service

10 reference librarians	@ $15,000 each	
2 library assistants	@ 8,000 each	
Overhead & fringe benefits	@ 50% = 83,000	
10 WATS lines	@ 3,840 each	
Reference materials	@ 2,500	290,000

Books-by-Mail Program	100,000
Continuing Education Program	
11 workshops @ $250 each	
4 scholarships @ $2500 each	12,800
Total Expenditure for Special Programs (3rd year)	$479,800
Per Capita Expenditure	12.6 cents

may accelerate more rapidly than predicted and that growth patterns estimated for the third year may be reached at an earlier date. Some flexibility in fiscal planning for these programs is essential.

Cost projections anticipate that field consultant services will provide a children's librarian the first year, and add an A-V specialist the second year, and a consultant for adult programs and promotion/publicity the third year. Additional consultants available at the OPLIC offices are included in OPLIC operational costs.

Telephone reference service is expected to utilize the services of five reference librarians and one library assistant the first year, growing to ten reference librarians with two assistants by the third year. The principal additional cost is the WATS telephone line. Providing this service through MINITEX would minimize overhead costs, and eliminate initial collection development costs, although some additional expenditures for materials for the reference collection are included in subsequent years.

Books-by-mail service should be administered by one of the regional headquarters libraries conveniently located for good mail service. An estimate of $50,000 for first year service should include materials, postage, and personnel.

Continuing education programs might also well be incorporated in MINITEX efforts in this area, with one workshop held in each regional center each year. Cost of each workshop is calculated at $250. In addition, four one-year scholarships at the rate of $2500 are included.

No salary increases or inflation corrections have been included in the costs in Table 4-16.

Per capita costs for special statewide library services should be subtracted from total base costs in calculating differential grants to regional library systems as discussed earlier.

Costs of other suggested special statewide programs, such as television programs, have not been calculated here, since more study would be required for such programs and levels of service determined would strongly impact service costs.

4.5 The Future Role of OPLIC

As indicated earlier, the Minnesota State Board of Education has a long history in the coordination and assistance to libraries within the state. The state library agency is now reporting to the Deputy Commissioner of Education. School library matters are handled under another office within the Department of Education. Likewise, the academic libraries are the concern of another agency, the Minnesota Higher Education Coordinating Commission.

To accomplish the recommendation of greater coordination between the regional library systems and school and academic libraries will require changes in the current OPLIC role and organization. Three areas of change appear most needed -- upgrading of the OPLIC Director's position within the Department of Education, increased responsibility to coordinate regional activities of all types of libraries, and the necessary staffing to accomplish the expanded role. The question of whether OPLIC should be part of the Department of Education is sometimes raised also.

Several alternatives should be considered prior to any final recommendation as to the best position within state government

for the library agency. The alternatives most often voiced by individuals in Minnesota were:

1. Upgrade the position of Director, OPLIC to an assistant commissioner for libraries

2. Move the OPLIC organization to the Minnesota Higher Education Coordinating Commission

3. Move the OPLIC organization to the Department of Administration

4. Leave OPLIC in its current position within the Department of Education.

Due to the political uncertainties attached to the possible decision to remove OPLIC from the Department of Education; Westat does not feel qualified, based on this study, to consider such an alternative. In discussions with individuals aware of the state library activities, the first alternative -- upgrading the Director of OPLIC to an assistant commissioner for libraries -- was most often suggested. While this alternative appears sound from an organizational view, a more thorough investigation is needed to sort out the political ramifications of the several alternatives. Such an investigation could, perhaps, be handled by a special task force of the Minnesota Library Association. Although Westat is reluctant to recommend the appropriate avenue for upgrading the position of OPLIC, it is important that the upgrading take place in order for the continuation of improvement in statewide libraries services utilizing the resources of all types of libraries.

Earlier in the report the need to coordinate all types of libraries in the developing regional systems has been emphasized. The state library agency, OPLIC, should develop plans for the coordination of academic and school libraries in the existing regional public library systems. This is not to imply that it is necessary to incorporate all types of libraries in each region. The inclusion of all libraries would have to be based on the mutual benefit gained

by such an action. Continued emphasis should be on networks of services rather than a network of libraries. In other words, networks should be developed around clearly defined and needed services, e.g., MINITEX. Special libraries should be encouraged to participate also assuming they are willing to share their resources.

These plans might well suggest consolidations and/or changes in the boundaries of the existing regions. Strengthening the statewide services by inclusion of other types of libraries should not require the duplication that would result from eleven regions. Coordination and planning for this kind of statewide service requires that the OPLIC director be able to move freely in all library circles.

The OPLIC staff now consists of five professional and four clerical members. The professional staff includes the following positions:

Director

Supervisor of Extension

Consultants (2)

Librarian (for local collection)

In addition, one vacancy exists at this time for a professional consultant. As a minimum, three additional professional consultants and one clerical person would be required to undertake the recommended expanded role of OPLIC.

5. A PLAN FOR ACTION

In the previous chapter, numerous suggestions and recommendations have been presented for the improvement of various aspects of a statewide library program for Minnesota. The purpose of this final chapter is to pull together the major recommendations and place them within the framework of a coherent plan. In connection with the plan a suggested schedule and estimated costs for implementation are given. Details are shown for a three year planning period.

5.1 Recommendations

All recommendations are predicated on continued emphasis on the regional library concept, which has proven itself to be a viable means for providing quality library service to Minnesota citizens. One ultimate goal is the inclusion of each county in the state within a full service regional system, adequately funded by equitable local and state contributions, and reinforced by the expertise of the Office of Public Libraries and Interlibrary Cooperation. Specific recommendations fall into three general catagories: the development of a sound financial base, the support of regional libraries directly, and the initiation of supplementary statewide services.

Development of a Sound Financial Base

To provide adequate levels of local support, it is recommended that the maximum limit for library support from cities be repealed and new legislation providing a legal minimum level of support from cities and counties be substituted. Suggested levels are one mill on assessed valuations for counties and an additional 1.6 mill on assessed valuations for urban areas of 2,500 population

or more. A More uniform base of valuations, such as the adjusted assessed values for counties based on the methodology used for the funding of public education in Minnesota, should be established.

To encourage the development and growth of regional library systems, counties forming a region (and such municipal libraries as join with it) should be relieved of one-half of the required jurisdictional contribution for the first year, and one-quarter of the required contribution in the second year, with supplemental funds being supplied by the state. As well as encouraging regional development, this would permit counties and municipalities currently maintaining systems to upgrade library contributions over a three year period.

To support the equitable distribution of adequate levels of state support, a formula incorporating a fixed rate-per-capita grant with a differential payment for upgrading library expenditures should be used to determine state support to regions. The differential payment should consist of a fixed percentage between expenditures for the previous year and state average library expenditures for the same period (or later, the ALA recommended average). Suggested levels are $.30 per capita for the fixed grant and a 25 percent differential payment. Detailed methodology for applying such a formula are presented in Section 4.3.3.3.

Support of Regional Libraries

The development of a sound financial base, of course, will do much to ensure provisions of library services within the regions. In addition, several areas of staff support are suggested.

To foster the professional development of personnel in the regional systems, support of both in-service training and regular library school programs should be a continuing effort by OPLIC. In-service training, particularly regional workshops, should be made available throughout the state. Library schools should be encouraged to develop special summer programs for library employees, and scholarships should be made available to persons enrolling in library school programs who will agree to work within the state upon graduation.

To supplement the expertise of regional system personnel, specialized field consultants should be provided. Of high priority as areas of specialization are children's services, audiovisual materials, adult services, and promotion. These consulting services should be provided in addition to those already furnished by OPLIC in such areas as administration and buildings.

As further support to regional library systems and their users, the development of multiple access points to library service should be encouraged. The pattern of access points best suited to a region will be specific to that region, but planning should take into consideration all of the available access points including shopping areas, schools, mail, telephone, radio, and television. While of particular importance in rural areas, the concept of multiple access points should be adopted statewide to ensure service to all citizens.

Initiation of Supplementary Statewide Services

In addition to programs of direct support to regional systems, several services should be provided on a statewide basis through regional or other library facilities. These include telephone reference service, books-by-mail, support of non-print

collections, television and radio programming, and experimental provision of services to specific minority groups. These programs are recommended as additions to those already supported by OPLIC, most notably interlibrary loan services.

To permit all residents of the state direct access to toll-free telephone service, the MINITEX reference service should be substantially expanded. This will serve a dual function of providing a needed service and establishing a link between the user of the reference service and the local library.

Development of a statewide books-by-mail system, possibly through a regional library facility, will provide both paperbacks and interlibrary loan services to rural populations and other users without convenient access to conventional facilities. A statewide program should prove cost effective and offer an extensive collection to any citizen desiring this form of service.

Based on the success of the film services offered by the Minnesota Library Film Circuit, it is recommended that the program be expanded to provide other types of nonprint materials, including tapes and cassettes, art prints, and sculpture. Use of this service will be facilitated by the audiovisual materials consultant on the OPLIC staff.

Statewide radio and television programs should be developed to promote library use by both children and adults. Children's programs should support familiarization with juvenile library materials and equipment of all kinds, while adult programs should focus on informational presentations which can be supplemented by materials from the local library. All programming should include information on both local and statewide library services available.

Specific experiments relating to innovative library services or programs should be developed and supported as needs arise. Initial candidates might include the provision of materials to minority groups, such as Indians and migrant workers, with special emphasis on the selection of appropriate materials and access points and the use of minority personnel. Such experiments should be carefully evaluated, and if found effective, incorporated into regional or statewide programming on a continuing basis. Library personnel throughout the state should be encouraged to support other experimental programs for consideration.

The programs recommended above, combined with current OPLIC efforts, will do much to support the goals expressed by the "Minnesota Long Range Plan for Library Service" and will create a program of library service within which specific objectives can be readily identified and accomplished. A timetable for the first three years of development under the recommended plan is presented in the following section.

5.2 Schedule for Implementation

Of primary importance prior to, and in the first year of implementation of the recommended plan is the establishment of the required base of financial support, from both local and state sources. This includes the adoption of the suggested formula for the calculation and distribution of state aid, and the passage of legislation providing a legal minimum level of support. Efforts in these areas should be initiated prior to implementation of any of the other recommendations, and will presumably continue for some period of

time. The following schedule is suggested for other recommended programs:

Year 1

- expand OPLIC staff
- hire Field Consultant for children's services
- initiate statewide books-by-mail service
- expand MINITEX telephone reference service
- begin continuing education program
- continue current priority programs as applicable

Year 2

- hire Field Consultant for audiovisual materials
- continue books-by-mail, telephone references, continuing education
- expand Minnesota Library Film Circuit scope
- introduce new experimental programs

Year 3

- hire Field Consultants for adult services and promotion
- continue books-by-mail, telephone reference, continuing education
- introduce new experimental programs
- determine further goals and objectives.

5.3 Estimated Funding Requirements

Funding requirements for state support of library services in Minnesota fall into four categories:

1. Operation of OPLIC headquarters and coordination of programs.

2. Grants of aid to regional library systems. These grants include (see Section 4.3):

   a. Per capita sustaining support for all regional systems,
   b. Differential grants for systems falling below the average state per capita expenditure.

c. Compensatory grants to counterbalance obligated funds of counties and municipalities relieved for a two-year period when joining a regional system.

3. Support for supplementary statewide programs. These include (see Section 4.4):

a. Field consultants program
b. Telephone reference service
c. Centralized books-by-mail program
d. Continuing education support.

4. Special grants for new or experimental programs or research.

Expenditures falling into category four, such as establishment grants, MINITEX programs, etc., are considered priority obligations, but since they vary with library developments in Minnesota, no price tag has been affixed to them. Expenditures in this category in FY 1974 exceeded $300,000. This expenditure may be expected to increase substantially as new experimental programs in providing improved access to materials and services are developed. Estimated costs for the first three categories of services shown in Table 5-1 cannot, then, be considered to represent the total amount of funding required for state participation in library service programs.

All figures shown in Table 5-1, which projects requirements over a three year period, are given in terms of 1974 dollars with no correction for future inflation. Such adjustments would be necessary to convert these estimates into future year budget figures.

One additional factor should be considered in viewing the schedule of costs for supplementary programs such as telephone reference service or books-by-mail. It is well established that provision of a needed information service in an easy to use and

Table 5-1. Funding Requirements for State Participation in Library Service Programs in Minnesota

Three-Year Period

1st year

OPLIC Support			$ 300,000
Grants of Aid to Regional Systems			
a.	Sustaining grants	$942,000	
b.	Differential grants	791,000	
	Sub-total		1,732,000
Support for Supplementary Programs			
a.	Field Consultants	25,600	
b.	Telephone reference	143,700	
c.	Books-by-Mail	50,000	
d.	Continuing education	12,800	
	Sub-total		232,100
Total Funds Required[1]			$2,264,100
	Per Capita expenditure (total population)		59.5 cents

2nd year

OPLIC Support			$ 360,000
Grants of Aid to Regional Systems			
a.	Sustaining grants	$1,034,000	
b.	Differential grants	139,000	
c.	Compensatory grant	473,000	
	Sub-total		1,646,000
Support for Supplementary Programs			
a.	Field consultant	51,200	
b.	Telephone reference	214,000	
c.	Books-by-Mail	75,000	
d.	Continuing education	12,800	
	Sub-total		353,000
Total Funds required 2nd year[1]			$2,359,000
	Per Capita expenditure (total population)		62.0 cents

[1] Does not include Special Grants for priority programs

Table 5-1. (cont.)

3rd year

OPLIC Support			$ 432,000
Grants of Aid to Regional Systems			
a.	Sustaining grants	$1,042,000	
b.	Differential grants	536,000	
c.	Compensatory grants	237,000	
	Sub-total		1,815,000
Support for Supplementary Programs			
a.	Field consultants	77,000	
b.	Telephone reference	290,000	
c.	Books-by-mail	100,000	
d.	Continuing education	12,800	
	Sub-total		479,800
Total funds required 3rd year[1]			$2,726,800
Per Capita expenditure (total population)			71.7 cents

[1]Does not include Special Grants for priority programs.

convenient mode of access generates substantial demand for the service, but no predictive models for rate of growth of such demand exist. Development in the indicated services may well accelerate at a faster rate than predicted in funding patterns here, and some flexibility in funding allocations in these areas should be incorporated into budgets including them.

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APPENDIX A

SURVEY METHODOLOGY

APPENDIX A

SURVEY METHODOLOGY

The primary purpose of the survey was to collect the necessary data to investigate costs of providing public library services to citizens of Minnesota. Based on a statistically drawn sample of 31 libraries, Westat staff visited each library to collect data on characteristics of the sample library, characteristics of the community served, revenues, expenditures, and staff time and other expenses allocated to direct library services to the public, and the support services. These data were recorded on a number of survey forms designed by Westat. Each of the major aspects of the survey methodology is discussed in this section.

Sample Design

The universe of libraries for the study consisted of all Minnesota public libraries providing services in 1973. In order to arrive at representative cost estimates, care was taken to design the sample to yield data from different sizes and types of public libraries including regional, county, municipal, branch and station service points. Due to budget and time constraints, a minimum sample size that would produce useful cost estimates was desired. A stratified random sample design was used by first grouping the universe of public libraries into five type-classes and secondly within each type-class arranging the libraries into three or less size groups based on population served. Table A-1 shows the universe and sample size for each stratum.

The universe of public libraries displayed in Table A-1 was constructed from information provided by the Office of Public Libraries and Interlibrary Cooperation (OPLIC) utilizing, for the

Table A-1. Universe and Sample Size

Library Type and Size of Population Served	No. of Libraries in Universe	No. of Libraries in Sample
I Municipal Libraries[1]		
A. Population of 50,000 or greater	4[2]	4
B. Population of 10,000-49,999	15	3
C. Population less than 10,000	113	3
II Branch Libraries in Major Cities (IA)	29	4
III County Libraries		
A. Population 50,000 or greater	5	3
B. Population less than 50,000	8	3
IV Regional Library Headquarters		
A. Population 50,000 or greater	6	3
B. Population less than 50,000	3	2
V Regional and County Branches and Stations		
A. Population 50,000 or greater	1	1
B. Population 10,000-49,999	15	2
C. Population less than 10,000	64	3
TOTAL	263	31

[1]Includes Arrowhead, MELSA, and SELCO system members.

[2]Main libraries in major cities: Minneapolis, St. Paul, Duluth, and Rochester.

most part, information published in Minnesota Libraries.[1] There is some difficulty when it comes to counting total libraries in the universe. The small service outlets, such as stations, are constantly undergoing change. If all the small outlets were included, a total figure of about 300 library service outlets would result.

With regard to the sample selection procedures used to draw the sample libraries in each stratum, several comments must be made. It is clear from Table A-1 that all sample libraries were not drawn with the same probability, e.g., all four main libraries in the major cities (stratum IA) were included in the sample, whereas, only three of the fifteen libraries in stratum IB were selected for inclusion. In the first case the probability of inclusion for the main libraries in major cities was 4/4 or 1.0, and the probability of the three sample libraries in stratum IB was 3/15 or .20. Sampling with different probabilities is common in most actual designs where a small sample is required. Although common in textbooks, simple random sampling is seldom used in practice as the only procedure. A primary reason is the problem caused by the very large units in the universe, e.g., Minneapolis Public Library and Hennepin County Public Library. A simple random sample of 31 libraries drawn from a universe of 263 libraries would assign a probability of 31/263 to each member of the universe. In other words the chances of drawing Minneapolis Public Library would be 31/263 or about .12. The betting odds are against it being in such a sample. Such a consequence is that one of the significantly smaller libraries in the sample would be representing the Minneapolis Public Library. Stratification procedures reduce the problem by grouping "like" units into strata. The groups in Table A-1 resulted from applying stratification on the basis of the type of library and population served.

Each of the very large units were automatically included in the sample.

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[1] "Public Library Statistics, 1972," Minnesota Libraries vol. 23 no. 10 (Spring 1973).

In the case of branch libraries in major cities (stratum II), the North Regional Community Library was included in the sample with probability of 1.0. One additional branch library was drawn systematically from each of the major cities, Minneapolis, St. Paul, and Duluth. For example, one branch library was drawn randomly from the ten St. Paul branches by selecting a random number between one and ten from a random number table -- the number two was chosen, hence the second St. Paul branch on the list was drawn into the sample.

Hennepin County Library was selected with probability 1.0 from staratum IIIA. The remaining sample was systematically selected. Again in the case of stratum IVA, the Arrowhead Regional Library Headquarters was automatically included in the sample.

An overall sample of 31 libraries was decided upon based on the consideration of providing useful statistical estimates within the budget and time constraints. The sample libraries are given in Table A-2 with the corresponding probabilities of selection.

Data Collection Forms

Data collection forms were developed by Westat to be administered by professional staff members in visits to the sample libraries. The items to be included were reviewed by the Advisory Committee with the final version of the forms reflecting the suggestions and reactions of the committee and librarians based on the initial interviews.

Data collection could, essentially, be divided into six general areas as follows:

1. General area and service characteristics
2. Library income
3. Total expenditures

Table A-2. Sample Libraries

Stratum	Library	Selection Probability
IA	Minneapolis Public Library	1.000
	St. Paul Public Library	1.000
	Duluth Public Library	1.000
	Rochester Public Library	1.000
IB	Columbia Heights Public Library	.200
	Grand Rapids Public Library	.200
	Red Wing Public Library	.200
IC	Stewartville Public Library	.026
	Buhl Public Library	.026
	Morgan Public Library	.026
II	North Regional Community Library	1.000
	Hosmer Community Library	.071
	Hamlin Branch	.100
	West Duluth Branch	.250
IIIA	Hennipen County Library	1.000
	Anoka County Library	.500
	Washington County Library	.500
IIIB	Austin-Mower Public Library	.375
	Martin County Library	.375
	Lyon County Library	.375
IVA	Arrowhead Library System Headquarters	1.000
	Great River Regional Library Headquarters	.400
	East Central Regional Library Headquarters	.400
IVB	LeSueur-Waseca Regional Library Headquarters	.667
	Northwest Regional Library Headquarters	.667
VA	Southdale (Hennepin County)	1.000
VB	Brooklyn Center (Hennepin County)	.133
	Robbinsdale (Hennepin County)	.133
VC	Aitkin (East Central)	.047
	Brownsdale (Mower County)	.047
	Pierz (Great River)	.047

4. Cost of direct services
5. Cost of support services
6. External information

Forms were designed to produce the required data in each of the above areas.

The initial part of the forms identified the area served by the sample library, size of area, number of people served and library service characteristics -- hours open and amount of space, seats, and meeting rooms. Several questions were directed at obtaining the view of the library director on his or her understanding of "adequate" library service, opinions on regionalization, local and state funding, and on the role of OPLIC.

The second general area of the forms sought the amount of revenues received by the library. Revenue sources were considered important also. Income for the most recent five years was recorded.

Library expenditure data were collected to identify the amount spent for staff, materials, capital expenses, and other expenses. Again, expenditures were sought for a five-year period. The category of other operating expenses was broken into detail for the year of 1973 showing cost estimates for such items as postage, travel, telephone, insurance, and office supplies.

The most comprehensive parts of the data collection forms covered the estimated costs of providing direct public services and of the support services. In order to estimate the costs of library services, it is necessary to allocate staff time and other expenses over the services. This is a difficult task and results in only rough estimates of actual costs. Even with the limitations on the estimates, they provide library planners with useful data.

Direct services were defined, for purposes of this study, as those services provided directly to the public. These services are:

1. Circulation
2. Interlibrary loan
3. Intra-system lending
4. Bookmobile
5. Books-by-mail
6. Reference
7. Children's services
8. Special services.

Definitions for each service have been provided in the main text of the report. (During data analysis, direct services were further broken down into Provision of Materials and Provision of Information and Services.)

The methodology used to allocate staff time and expenses to each service was based on having the appropriate supervisor (generally the director except for larger libraries) estimate the hours per week spent by each staff member working in a specific service. Estimates were based on a "typical" week during the year 1973. For the most part, supervisors rely on very recent experience except for remarkable changes from the past year. Consider the case of circulation: for each person identified as working in circulation the estimated number of hours per week spent in circulation, total hours worked per week, annual salary or wages, and whether the person is a professional, non-professional or student was recorded on the form. From this information the estimated staff time and cost devoted to circulation was computed for each category of worker -- professional, non-professional, or student. Except in the case of very large libraries, a matrix form with all the services across the top and individuals down the side provided a means for balancing each person's weekly hours across the services.

Allocating the non-labor expenses, such as supplies, was more difficult. Few libraries allocate such expenses to individual services. With the assistance of an annual budget, receipts, and recall on the part of the person best equipped to estimate these expenses, estimates are obtainable. Their reliability is probably less than the

corresponding reliability of the estimates of staff time devoted to services.

The units of service provided for each of the direct services was obtained when available. Most libraries retain records on the volume of circulation and interlibrary loans, a few record the number of reference questions received, and even less maintain counts of individuals served through children's and special programs.

The fifth major area of data collection focused on the estimation of support costs. Support services or activities were defined to include:

1. Collection development and maintenance
2. Technical processing
3. Public relations
4. Administration

In a manner similar to that for direct services, staff time and other expenses were allocated to the support activities. Units were obtained for the number of titles added and number of volumes weeded as a measure of output for collection development and replacement. The number of volumes processed was the unit for technical processing.

The final section of the form was devoted to information external to the library operations such as location and visibility in community. Additional census data were collected from the U.S. Census Bureau publications regarding community characteristics.

Data Collection

Visits were made to each sample library by a professional staff member of Westat. Four of the five staff making the visits were librarians (M.L.S. degrees). At each library the director was briefed on the intent of the study and the data required from the library. In libraries other than the very large ones, the director was the person who worked with Westat to complete the forms. Libraries were visited primarily during the months of June and July with a few visits made in August 1974.

On the average, about two to three days were spent at each sample library to complete the data collection. Telephone calls were made for followup information on matters requiring clarification.

Data Analysis

The individual Westat staff member visiting the sample library was responsible for the analysis of cost data from that library. Standard summary forms were used to record the aggregate figures and unit costs developed from each sample library. The individual cost data provided the basis for further analysis.

APPENDIX B

DEFINITIONS AND COMPUTATIONAL TECHNIQUES FOR INDIVIDUAL SERVICES

Administration (see also Section 3.1.3)

a. For guidelines on labor time for administration to be used in computing labor cost of administration, see Section 3.1.3.
b. Non-labor cost for Administration: Compute in three steps:
   1. Sum all non-labor costs for other services;
   2. Sum all non-labor costs for the library (system) during the year, excluding building maintenance and repair, rent, property insurance, utilities (except telephone), any unusual equipment purchases (see equipment definition), and capital expenditures.
   3. Subtract (2) from (1).

Allocation Factor

An allocation factor is used in apportionment of indirect costs to direct costs. An allocation factor usually equals total volume of service provided by the agency under consideration divided by the volume of service provided by the library system.

Bookmobile (see also Section 3.1.1)

a. Direct cost components:
   1. Driver
   2. Attendants
   3. Maintenance
   4. Bookmobile support staff at HQ (if any)
   5. Equipment purchase price, amortized (10 percent of bookmobile purchase price included if purchased after 1963).
   6. Gas, oil, repairs, electricity, etc.
b. Indirect cost components:
   1. Circulation. Allocate circulation support for bookmobile service to cost of bookmobile service if charge-out and overdues for bookmobile circulation is the same as for regular system. Formula to be used:

$$\begin{pmatrix}\text{Circulation support cost allocated to bookmobile cost}\end{pmatrix} = \left(\frac{\text{Total Bookmobile Circulation}}{\text{Total System Circulation}}\right) \times \begin{pmatrix}\text{Indirect cost of circulation functions performed at headquarters}\end{pmatrix}$$

   2. Intra-system lending. Allocate intra-system lending cost incurred at headquarters to cost of bookmobile service if ISL requests are handled along with ISL requests from branches. See Intra-System Lending (ISL) in this section.

c. Unit cost for bookmobile service:

$$UC_{Bookmobile} = \left(\begin{array}{l} \text{Direct} \\ \text{Cost for} \\ \text{Bookmobile} \\ \text{Service} \end{array} + \begin{array}{l} \text{Allocated} \\ \text{Indirect} \\ \text{Cost of} \\ \text{Circulation} \end{array} + \begin{array}{l} \text{Allocated} \\ \text{Cost of} \\ \text{ISL} \end{array} \right) \div \begin{array}{l} \text{Bookmobile} \\ \text{Circulation} \\ \text{Volume} \end{array}$$

d. Sometimes bookmobiles are used in lieu of a delivery vehicle for transporting materials and requests between branches and headquarters. The cost of performing this service has not been separately costed.

Books-By-Mail (see also Section 3.1.1)

a. Labor components:
   1. Mailing
   2. Responding to requests
   3. Packing

b. Non-labor components:
   1. Catalog
   2. Supplies and postage
   3. Initial and subsequent paperback purchases
      (Note: paperbacks are treated here as supplies because they inevitably wear out and must be replaced.)

c. Indirect costs: none. Allocation factor: none.

d. Calculation of unit cost:

$$UC_{Books\text{-}By\text{-}Mail} = \left(\begin{array}{l} \text{Cost of} \\ \text{Labor} \end{array} + \begin{array}{l} \text{Non-labor} \\ \text{Costs} \end{array} \right) \div \begin{array}{l} \text{Books-by-mail} \\ \text{Circulation} \\ \text{Volume} \end{array}$$

Branch

An agency offering basic library services within a municipal, county, or regional system, other than the headquarters or bookmobile service.

Captial Expenditure

Funds expended for permanent improvement of physical equipment and facilities. (For this study, capital expenditure was excluded from consideration, except in certain equipment areas.)

Children's Services (see also Section 3.1.2)

a. Labor components: time spent by staff on functions described in 3.1.2.

b. Non-labor components for children's services:
   1. Room rental
   2. Refreshments
   3. Give-away materials
   4. Printing costs, advertising
   5. Transportation
   6. Speakers, live entertainment.

c. Indirect costs:
   Where appropriate, children's service costs are allocated to branches, particularly when a specific individual or group at headquarters is responsible for children's services at branch. Allocation factor used for this was same as for branch circulation.

d. Volume statistics used: number of children served by children's programs.

e. Unit cost (without allocated costs):

$$UC_{\text{Child. Serv.}} = \begin{pmatrix} \text{Labor cost for Children's Services} & \text{Non-labor +Cost for Children's Services} \end{pmatrix} \div \text{Total number of Children in programs at this agency}$$

f. Note caveats in Section 3.2.2 regarding the use of this unit cost statistic.

Circulation (see also Section 3.1.1)

a. By definition, an independent library would have no intra-system lending costs. Neither is there a need for a distinction between direct and indirect costs, since all circulation functions are performed for circulation to local patrons. The unit cost for circulation would simply be

$$UC_{\text{circ.}} = \begin{pmatrix} \text{Labor Cost for Circulation Functions} & + & \text{Non-labor Cost for Circulation Functions} \end{pmatrix} \div \text{Circulation Volume}$$

b. Libraries which are members of municipal, county, or regional systems, which share circulation functions, and which transfer materials among system members in response to patron requests, have had distinctions made between direct and indirect costs for circulation functions. These distinctions require an allocation of indirect costs from headquarters to branch circulation.

c. For headquarters libraries, the unit cost of circulation is represented by

$$UC_{\substack{circ.\\(HQ)}} = \left\{\left(\begin{array}{c}\text{Direct labor}\\ \text{cost for}\\ \text{circulation}\end{array} + \begin{array}{c}\text{Direct non-labor}\\ \text{cost for}\\ \text{circulation}\end{array}\right) + \left[\left(\begin{array}{c}\text{Headquarters}\\ \text{circulation}\\ \text{volume}\end{array} \div \begin{array}{c}\text{Total system}\\ \text{circulation}\\ \text{volume}\end{array}\right) \times \left(\begin{array}{c}\text{Total indirect}\\ \text{labor cost for}\\ \text{circulation}\end{array} + \begin{array}{c}\text{Total indirect}\\ \text{non-labor cost}\\ \text{for circulation}\end{array}\right)\right]\right\} \div \begin{array}{c}\text{Headquarters}\\ \text{circulation}\\ \text{volume}\end{array}$$

Note: In practice, "direct non-labor costs" are difficult to determine, and are usually assumed to be included in the term, "Total indirect non-labor costs."

d. For branch libraries, calculation of $UC_{circ.}$ is somewhat more complicated, since performance of Intra-System Lending (ISL) functions is included in circulation. $UC_{circ.\&ISL}$ is represented by

$$UC_{\substack{circ.\ \&\ ISL\\(branch)}} = \left\{\left(\begin{array}{c}\text{Direct labor}\\ \text{cost for}\\ \text{circulation}\end{array} + \begin{array}{c}\text{Direct labor}\\ \text{cost for}\\ \text{ISL}\end{array} + \begin{array}{c}\text{Direct non-labor}\\ \text{cost for}\\ \text{circulation}\end{array} + \begin{array}{c}\text{Direct non-labor}\\ \text{cost for}\\ \text{ISL}\end{array}\right) + \left[\left(\begin{array}{c}\text{Branch}\\ \text{Circulation}\\ \text{volume}\end{array} \div \begin{array}{c}\text{Total system}\\ \text{circulation}\\ \text{volume}\end{array}\right) \times \left(\begin{array}{c}\text{Total indirect}\\ \text{labor cost}\\ \text{for circulation}\end{array} + \begin{array}{c}\text{Total indirect}\\ \text{non-labor cost}\\ \text{for circulation}\end{array}\right)\right] + \left(\begin{array}{c}\text{Allocated cost}\\ \text{for ISL}\end{array}\right)\right\} \div \begin{array}{c}\text{Branch}\\ \text{circulation}\\ \text{volume}\end{array}$$

Note: See Intra-System Lending in this section for determination of the "Allocated cost for ISL."

Collection Development and Maintenance (see also Section 3.1.3)

a. Labor components: cost of time devoted to functions mentioned in Section 3.1.3.

b. Examples of non-labor cost components:
   1. Order forms
   2. Selection tools (if available)
   3. Postage, delivery costs for new materials
   4. membership in film circuit or rental programs
   5. Subscription costs
   6. Materials purchase costs.
   7. Transportation of new materials to branches (if applicable)

c. Units used in calculating unit cost: generally speaking, units used = titles added plus volumes withdrawn. When data from the Survey of Public Libraries and Nonconsolidated Public Library Systems...Fiscal Year 1973 was available, units used in calculating a unit cost = unbound bibliographic volumes in periodical collection (withdrawn), plus bibliographic volumes of magazines, newspapers, and other serial publications in microform (added and withdrawn), plus adult book titles (added), plus juvenile book titles (added), plus adult volumes (withdrawn), plus juvenile volumes (withdrawn), plus motion picture titles (added and withdrawn), plus sound recording titles (added and withdrawn), plus periodical titles currently received.

d. When a title-to-volume ratio was not available for an individual library, one of the following estimates was used: a) estimate by librarian or interviewer, b) ratio for similar type of library, when known; c) ratio of three volumes to one title. The lack of exact unit figures must be taken into account when comparing unit costs.
e. For an independent library which performs all its own collection development and maintenance functions,

$$UC_{coll.dev.} = \left(\begin{array}{l}\text{Labor costs} \\ \text{for Coll.Dev.}\end{array} + \begin{array}{l}\text{Non-labor costs} \\ \text{for Coll. Dev.}\end{array}\right) \div \begin{array}{l}\text{Titles added +} \\ \text{volumes} \\ \text{withdrawn}\end{array}$$

f. For branch or headquarters libraries within a municipal, county, or regional system, distinctions are made, when possible, between direct costs (i.e., those incurred in developing and maintaining the collection at the particular location in question) and indirect costs (i.e., those incurred in performing functions for the entire system, e.g., ordering or book selection).
g. The following is the formula used for developing a unit cost for Collection Development and Maintenance for a branch library:

$$UC_{\substack{coll.dev. \\ (branch)}} = \left\{\left(\begin{array}{l}\text{Direct labor} \\ \text{cost for} \\ \text{coll.dev. at} \\ \text{branch}\end{array} + \begin{array}{l}\text{Direct non-labor} \\ \text{cost for} \\ \text{coll.dev. at} \\ \text{branch}\end{array}\right) + \left[\left(\begin{array}{l}\text{Titles added \&} \\ \text{volumes withdrawn} \\ \text{at branch}\end{array} \div \begin{array}{l}\text{Total titles} \\ \text{added and} \\ \text{volumes with-} \\ \text{drawn for} \\ \text{system}\end{array}\right) \times \left(\begin{array}{l}\text{Indirect labor} \\ \text{cost for coll.} \\ \text{Dev. for} \\ \text{system}\end{array} + \begin{array}{l}\text{Indirect non-labor} \\ \text{cost for Coll.Dev.} \\ \text{for system}\end{array}\right)\right]\right\} \div \begin{array}{l}\text{Titles added} \\ \text{\& volumes} \\ \text{withdrawn at} \\ \text{branch}\end{array}$$

h. The formula used for the headquarters library is similar to the above.
i. It should be noted that, since the books added to a branch library or to a headquarters library are generally transferrable throughout the system, whether or not they are assigned to any one agency within the system, the distinction between "branch-collection development and maintenance functions" and "headquarters" functions is somewhat arbitrary, especially when selection and ordering are highly centralized.
j. When a delivery service exists within a system, part of this cost is allocated among the branches (see Intra-System Lending).
k. Unless specified otherwise, collection development unit costs do not include materials costs.

Consolidated System

A library system in which administration and operational control are centralized at a regional headquarters.

County

Describes a library or library system whose formal base for support is a single county.

Direct Cost

A labor or non-labor cost incurred in connection with services performed for local patrons or the local collection.

Donated Time

Time devoted by library staff to performing library services beyond regular working hours without overtime pay. This is most common among administrative and professional staff, especially among professionals involved in materials selection activities. The hours devoted by professionals to collection development and maintenance (chiefly book selection) as reported in Appendix C covers only regular working hours. In general, these figures are underestimates of time actually spent by professionals on collection development.

Equipment

a. For library services other than administration, an attempt was made to distinquish among library equipment (non-furniture equipment specially designed or modified for a specific library task, e.g., a microfilm charge machine or catalog card camera), office equipment (e.g., typewriters, photoduplication machines, adding machines), and other equipment (e.g., bookmobile, delivery vehicle, data processing equipment).
b. Library equipment costs were charged to the specific service involved, e.g., charge machine maintenance, purchase, lease, or rental to circulation. "Large" equipment purchases occuring during 1973, i.e., those which would tend to skew the normal cost trend from year to year, were either amortized over a five year period or ignored.
c. Office equipment costs were charged to "administration." This includes typewriter purchase and repair, duplication machine maintenance, etc. Where possible, the same "large purchase" guideline was followed as described above.
d. Bookmobile and non-maintenance vehicle purchases made after 1973 were amortized over a ten year period, i.e., ten percent of purchase price was added to other 1973 costs. Individual depreciation formulas used throughout the sample libraries for bookmobiles were either unknown or not readily available. Unit costs for bookmobile circulation appearing in this report do not include bookmobile vehicle costs unless specified otherwise.

e. Data processing and computer equipment lease or rental costs were charged to individual services according to volume of use when the cost was incurred by the library under consideration. The cost to a county government of preparing a library payroll on the county's own system, for example, was not included as a library service cost. "One-time" program development costs were amortized over five years.
f. All other equipment costs, excluding janitorial, grounds, or building-related equipment, were included in the Administration "non-labor" category.

Federated System

A library system in which local facilities retain essential local autonomy except for centralized regional services such as bookmobile, ordering, and/or technical processing.

Fringe Benefits

In order to calculate the actual labor cost for individual services, a "fringe benefit" was considered to be any additional employee-related expense incurred by the library or local government beyond the employee's regular salary. Thus, library or local government contributions to retirement, hospitalization, insurance, or educational funds were added to regular salary in computing yearly, weekly, and hourly rates. Where individual fringe benefits rates were unavailable, a general percentage factor was used for the computation of individual employees' actual salaries. This general percentage factor was obtained either from the particular library's own annual report or from conversation with the local government's treasurer's or business office.

Headquarters

A headquarters is the location within a system where central administration and support functions for an entire system are performed. Generally speaking, system headquarters also provide public services, although this is not always the case (for example, Arrowhead or Hennepin County headquarters).

Hold-Out

A hold-out library is a library, usually outside a large metropolitan area, which does not belong to any surrounding municipal, county, or regional public library systems. Sometimes, residents

of areas served by hold-out libraries are assessed a separate fee in order to be provided with direct access to other libraries in the area which are members of a library system. In determining the populations of areas served by library systems, an effort has been made to subtract the population of hold-out areas from the population of the overall area served by the library systems under study.

Independent Library

For purposes of cost analysis, an independent library is one which performs all its own library services or contracts with another library or library system for only a limited number of services, such as technical processing.

Indirect Cost

A labor or non-labor cost incurred in connection with services performed in support of library services offered by all members of a library system, including bookmobiles. Indirect costs are usually (but not always) incurred at a headquarters library.

Interlibrary Loan (ILL) (see also Section 3.1.1)

a. ILL is a formal library service involving the requesting or transfer of library materials between library systems in response to specific patron requests.
b. In some library systems, ILL is a highly centralized function at the system headquarters, centering around the headquarters' superior collection, while in other library systems, ILL requests are routed among the branches or even received by the branches.
c. ILL does not involve a distinction between direct and indirect costs, but does involve a distinction between borrowing and lending functions.
d. Labor costs = cost of time spent on functions described in Section 3.1.1.
e. Non-labor costs include:
    1. interlibrary loan forms
    2. wrapping and packing materials
    3. postage
    4. teletypewriter fees
    5. transportation costs incurred by library when transferring materials between systems (if applicable).
    6. cost of photoduplication of requested items.

f. Unit cost for interlibrary loan:

$$UC_{ILL} = \left(\begin{matrix}\text{Labor cost} \\ \text{for ILL}\end{matrix} + \begin{matrix}\text{Non-labor} \\ \text{cost for} \\ \text{ILL}\end{matrix}\right) \div \left(\begin{matrix}\text{Number of} \\ \text{requests} \\ \text{made}\end{matrix} + \begin{matrix}\text{Number of} \\ \text{requests} \\ \text{received}\end{matrix}\right)$$

g. A request for an article with ten pages is counted as one request. Libraries reporting ILL volume in terms of pages copied had their data converted from pages to requests at an estimated conversion factor of ten pages to one request.

Intersystem

Concerning relationships among libraries belonging to different systems.

Intra-System Lending (ISL) (see also Section 3.1.1)

a. As noted before, ISL costs are incurred only where materials are transferred among members in response to patron requests.
b. ISL functions performed at headquarters libraries are assumed to be performed in response to branch-originated or bookmobile-originated requests. All headquarters ISL costs are thus allocated to branches in order to calculate $UC_{circ.\&ISL(branch)}$ or $UC_{bookmobile}$.
c. Determination of ISL costs is simplified when a separate unit or department exists at headquarters to handle branch or bookmobile requests (as is the case, for example, at the headquarters of the Great River Regional Library in St. Cloud).
d. Allocation of ISL costs requires isolation of two factors:
    1. Cost of searching, routing, and maintenance of locator files for responding to requests (location function);
    2. Transportation of items to requesting agency (transportation function).
e. The cost of the location function is allocated to a branch by the following allocation factor:

$$AF_{\substack{\text{ISL location} \\ \text{(branch)}}} = \left(\begin{matrix}\text{Branch} \\ \text{Circulation} \\ \text{Volume}\end{matrix}\right) \div \left(\begin{matrix}\text{Total Branch} \\ \text{Circulation} \\ \text{Volume}\end{matrix} + \begin{matrix}\text{Total} \\ \text{Bookmobile} \\ \text{Circ. volume}\end{matrix}\right)$$

f. The cost of the location function is allocated to bookmobile costs by the following allocation factor:

$$AF_{\substack{\text{ISL location} \\ \text{(bookmobile)}}} = \left(\begin{matrix}\text{Total} \\ \text{Bookmobile} \\ \text{Circ. volume}\end{matrix}\right) \div \left(\begin{matrix}\text{Total Branch} \\ \text{Circulation} \\ \text{Volume}\end{matrix} + \begin{matrix}\text{Total} \\ \text{Bookmobile} \\ \text{Circ. volume}\end{matrix}\right)$$

g. It is assumed that delivery services within library systems have two primary functions:
    1. Transfer of requested materials back and forth among libraries in the system (an ISL cost)

2. Transfer of requested materilas back and forth among libraries in the system (a Collection Development and Maintenance cost).

Since delivery services normally operate on regular schedules, an allocation factor for the ISL transportation function is more meaningfully related to the number of branches in the system. Since the delivery service performs both an ISL service and a collection development service, transportation costs are split among these two. The allocation factor for both ISL and collection development transportation costs is thus

$$AF_{transportation} = (1 : n) \times 1/2$$

where n = the total number of branches regularly visited by the delivery service. Multiplying this allocation factor times the cost of the delivery service (usually driver salary and vehicle upkeep and maintenance, when available) yields the ISL transportation cost, which, when added to the cost derived by using the allocation factor described in e., above, gives the total ISL cost to be allocated to the branch under consideration.

h. Where no separate delivery service exists, and bookmobiles are used to drop off and pick up materials and requests at branches along their routes, no transportation cost for ISL or Collection Development have been calculated.

Local Service

Services described as local are those performed for the library's own local patrons, or in connection with the library's own collection.

Labor Costs

Labor costs include professional, non-professional, and student labor. Ordinarily, maintenance and janitorial personnel costs are omitted, except in a few instances where they may be involved in such services as interlibrary loan, bookmobile, or intra-system lending.

Maintenance

a. Maintenance non-labor costs, i.e., those connected with upkeep and repair of physical facilities, have been omitted from consideration.

b. Maintenance labor costs have been omitted from consideration except in a few instances (see Labor Costs).

Materials

Library materials are items purchased by a library in anticipation that they will be used - and usually loaned - to library users. Materials costs include books, periodicals, audiovisual, and microfilm costs. Unless specified otherwise these different media have not been separated out in consideration of materials costs. In a few instances, audiovisual hardware purchases, when the hardware is meant to circulate, have been considered to be materials costs.

Municipal

Describes a library or library system whose formal base for support is a city or town.

Non-labor Costs (see also Section 3.2.3)

a. Non-labor costs are generally divided into three main areas:
   1. Equipment
   2. Supplies
   3. Materials

Non-Professional

For the purposes of this survey, non-professional library personnel are considered to be those without a formal, fifth year degree in library science, who are not employed in a capacity as a central administrator, who are not formally pursuing a high school or higher level degree and who are employed in a semi-professional or clerical position.

Professional

a. For the purposes of this survey, a person is classified as a professional if he or she either possesses a fifth year degree in librarianship, or if he or she is employed in an administrative capacity at the system level or at the headquarters library within a library system.
b. Where a conflict occurs between "professional" and "non-professional," the individual in question is classed as a professional if payed at the same rate as other professionals meeting the above criteria.

Public Relations (see also Section 3.1.3)

a. Labor and non-labor costs for public relations are described in Section 3.1.3.
b. Where a conflict exists between classifying the production of reading lists or hand-out bibliographies as "public relations" or "technical processing," the distinction is based on the function of the particular list. For example, reading lists distributed to the public which are intended to "advertise" what the library has on a particular subject are classified as public relations, while lists intended to act as catalogs - such as film lists or catalogs - are classed as technical processing products.
c. In a sense, all figures reported in Appendix C are underestimates of time spent on public relations, since any member of the library staff who has contact with the public in a work context can be said to be involved in "public relations." Appendix C covers only formal public relations, as described above.

Reference (see also Section 3.1.2)

a. For definition of reference, see Section 3.1.2.
b. In calculating labor costs for reference, a distinction was made between the title "Reference Librarian" and what that individual actually did in addition to Reference.
c. Book selection, a responsibility of many reference librarians, was included under Collection Development and Maintenance.
d. Development of special catalogs or indexes by a reference librarian or department was considered to be a technical processing or special services function if not done solely for internal reference department use.
e. Since reference is primarily a question negotiation, searching, and location function, few non-labor costs were identified. Typewriter, telephone, postage, and general office supplies consumed by reference generally appear under Administration since few - if any - libraries keep department-by-department records.
f. Caveats concerning units of reference service should be kept in mind. Little uniformity exists in reference question tallying. In addition, the tally of a reference question measures a library input, and says nothing about the quality or quantity of the output.

Formula for computing unit cost of reference service:

$$UC_{ref.} = \left(\begin{array}{l}\text{Labor costs for} \\ \text{Reference}\end{array} + \begin{array}{l}\text{Non-labor} \\ \text{Costs for} \\ \text{Reference}\end{array}\right) \div \begin{array}{l}\text{Volume of} \\ \text{reference} \\ \text{questions} \\ \text{received}\end{array}$$

g. While branch libraries within library systems primarily provide reference service to their local patrons, headquarters libraries often provide system-wide reference service. No attempt has been made, therefore, to distinquish between direct and indirect costs for reference service at library system headquarters.

Regional

Describes a library or library system responsible for service to a multi-county area.

Served

In terms of this study, "served" refers to residents having legal access to materials.

Special Services (see also Section 3.1.2)

a. Labor and non-labor costs are described in Section 3.1.2.
b. Units used to calculate unit cost of special services are suspect, since such a wide variety of programs may be covered, along with numerous counting methods. Formula for unit cost calculation is:

$$UC_{\text{Spec. Serv.}} = \left(\begin{array}{l}\text{Labor Costs for Special Services} \\ + \\ \text{Non-labor Costs for Special Services}\end{array}\right) \div \begin{array}{l}\text{Total number of people attending or served by special services programs.}\end{array}$$

c. In order to enhance comparisons, some unique library features such as Minneapolis Public Library's Museum, Planetarium, and Athenaeum were omitted from consideration.
d. Admission or membership charges for special services programs were considered to be library income, and were not subtracted from the non-labor cost for Special Services.

Student

This classification includes individuals who are formally enrolled, either full or part-time, as high school, college, or graduate students, and who work only part-time, or who are employed full-time in a "shelver" or "page" status.

Supplies (see also Equipment in this section)

a. Supplies are defined as non-permanent materials consumed in the course of providing a library service. They may be divided into two general groups:
   1. library supplies (supplies specifically designed for performing library functions, such as transaction cards, date due slips, plastic book jackets, pockets, charge machine film or ribbons, library cards, etc.)
   2. office supplies (general paper, pencils, stationery, postage, staples, etc.)

b. For the most part, library supplies were charged to the specific service involved, e.g., catalog cards to Technical Processing, borrower's cards to Circulation, posterboard for library displays to Public Relations, etc.

c. Where possible, large supply purchases made during 1973 and expected to last several years were amortized over the expected "lifetime" of the supply.

d. The main sources for supply costs were invoice files and annual reports. Libraries were consulted when an ambiquous heading such as "Supplies and Postage" covered both library and office supplies.

System Service

A "system" service is one which is performed on the behalf of an entire system's collection or clientele. Often, reference service provided at a system's headquarters library is, in reality, a "system" service, since questions may originate from anyplace within the system's borders. Other examples of "system" services are centralized interlibrary loan, and children's and special services program planning at the system level.

Technical Processing (see also Section 3.1.3)

a. Labor component: cost of time devoted to functions mentioned in Section 3.1.3.

b. Examples of non-labor cost components:
   1. Book jackets
   2. Index cards
   3. Catalog cards
   4. Book pockets
   5. Bindery fees
   6. Book catalog reproduction
   7. Subscription or purchase of sources for cataloging copy
   8. Pamphlet file mounting materials
   9. Materials for cleaning and inspecting audiovisual materials.

c. Units used in calculating unit cost: book volumes and other items processed, when available. When this figure was not available, units were based on same units as for collection development and maintenance, except that, a) items withdrawn were not considered, only items added; b) book volumes, not book titles, were considered, and c) number of periodical titles received was multiplied times 12 to account for the fact that periodical check-in was considered to be a Technical Processing function.

d. For an independent library which performs its own Technical Processing functions,

$$UC_{\text{tech. proc.}} = \left(\begin{array}{l}\text{Labor Costs}\\ \text{for Technical}\\ \text{Processing}\end{array} + \begin{array}{l}\text{Non-labor Costs}\\ \text{for Technical}\\ \text{Processing}\end{array}\right) \div \begin{array}{l}\text{Total Units}\\ \text{Processed.}\end{array}$$

e. For a branch library, in which technical processing functions are performed by both branch and headquarters:

$$UC_{\substack{\text{tech.proc.}\\ \text{(branch)}}} = \left\{\left(\begin{array}{l}\text{Direct labor}\\ \text{cost for}\\ \text{tech.proc.}\\ \text{at branch}\end{array} + \begin{array}{l}\text{Direct non-labor}\\ \text{cost for tech.}\\ \text{proc. at branch}\end{array}\right) + \left[\left(\begin{array}{l}\text{Items processed}\\ \text{by branch}\end{array} \div \begin{array}{l}\text{Total number of}\\ \text{items processed}\\ \text{for system}\end{array}\right) \times \left(\begin{array}{l}\text{Indirect tech.proc.}\\ \text{labor cost for}\\ \text{entire system}\end{array} + \begin{array}{l}\text{Indirect non-labor}\\ \text{cost for tech.proc.}\\ \text{for entire system}\end{array}\right)\right]\right\} \div \begin{array}{l}\text{Items processed}\\ \text{for branch}\end{array}$$

f. The formula in (e) can be modified for headquarters technical processing.

Unit Cost (see Section 3.2.2)

Unit Time

Analogous to unit cost, a "unit time" can be thought of as the average amount of time it takes to perform a given library task. While it may subsume professional, non-professional, and student time into one statistic, and while it doesn't give any indication of the quality of the service being provided, it does provide a more realistic comparative measure of performance than unit cost when salary levels fluctuate widely between libraries, as in Minnesota.

Unserved

In terms of this study, "unserved" refers to residents not having legal access to library materials.

APPENDIX C

INDIVIDUAL LIBRARY COSTS

INDIVIDUAL LIBRARY COSTS

Tables C-1 through C-11 present the basic 1973 cost data collected for the 31 Minnesota libraries in the sample. Each table deals with one of the 11 services defined, that is, circulation, interlibrary loan, bookmobile, books-by-mail, reference, children's services, special services, collection development and maintenance, technical processing, public relations, or administration. Data given includes labor hours and dollars expended, non-labor costs, and percent of labor and total budgets expended. Where applicable, volume of service and the corresponding unit costs and times are shown.

An important factor affecting interpretation of the data is the allocation of certain costs incurred on a system-wide basis to the individual members of the system. This allocation was made, where appropriate, for circulation, collection development, and technical processing and for other services as the situation and available data permitted. Administration and public relations services performed by a system headquarters, while clearly system-wide functions, were not allocated to system members. The net effect of the allocation of system's costs is to represent for each library, as closely as possible, the costs of supporting and providing public service from that outlet, rather than simply the costs incurred there. Unless otherwise noted, the costs shown for a system headquarters are for the support and provision of services to patrons of that individual facility only.

Additional information on the methodology used in collecting and reducing individual library data is given in Chapter 3 and Appendices A and B, and it is essential that the data following be viewed in the light of definitions and limitations noted therein.

Table C-1. Summary Data for Individual Sample Libraries: Circulation and Intrasystem Lending

Sample Library	Annual Labor Time and Cost								Non-Labor Cost $	Total Cost $	Circulation Volume
	Professional		Non-Prof.		Student		Total Hours	Total $			
	Hours	$	Hours	$	Hours	$					
1. Minneapolis	1,256	8,685	19,617	145,565	24,959	71,011	45,832	226,261	15,071	241,331	767,534
2. St. Paul	624	4,801	16,915	87,124	25,774	53,034	43,313	124,959	3,626	128,585	603,898
3. Duluth	177	1,466	5,311	20,551	5,337	5,283	10,825	37,300	10,469	37,769	252,112
4. Rochester	0	0	12,470	43,316	5,616	7,659	18,486	50,975	5,727	56,702	454,654
5. Hosmer	119	874	3,736	11,597	625	1,778	4,480	14,249	1,321	15,570	65,611
6. North Regional	125	963	8,856	33,822	3,592	10,218	12,572	45,003	4,854	49,857	245,455
7. Hamline	213	1,682	4,880	18,711	26	54	5,119	20,447	440	20,887	74,107
8. West Duluth	61	240	1,851	9,918	807	698	2,720	10,856	234	11,090	59,480
9. Columbia Heights	104	649	2,865	6,126	3,744	5,236	6,713	12,011	593	12,603	146,632
10. Grand Rapids	0	0	5,603	14,204	0	0	5,603	14,204	0	14,204	103,617
11. Red Wing	1,664	8,332	4,420	13,620	1,595	1,973	7,679	24,125	505	24,630	91,108
12. Stewartville	0	0	884	2,394	0	0	884	2,394	0	2,394	19,946
13. Buhl	0	0	995	2,453	0	0	995	2,453	16	2,469	20,146
14. Morgan	0	0	920	1,508	0	0	920	1,508	0	1,508	11,158
15. Hennepin County Rg.	-	-	-	-	-	-	-	-	-	-	-
16. Anoka County[1]	1,139	3,462	14,335	41,670	11,115	16,673	27,189	61,805	9,106	70,911	712,336
17. Washington County[1]	1,576	6,659	8,059	25,201	6,030	10,235	15,665	42,095	4,800	46,895	218,493
18. Austin-Mower County	702	3,967	3,326	12,677	5,200	8,580	9,828	25,224	1,577	26,801	165,794
19. Martin County	195	1,875	1,813	3,963	1,826	2,405	4,034	8,243	90	8,333	89,110
20. Marshall-Lyon County	40	285	2,297	3,759	1,834	2,865	4,171	6,909	652	7,561	74,020
21. Arrowhead[2]	-	-	-	-	-	-	-	-	-	-	-
22. Great River Regional Rg.	1,052	6,259	5,112	15,828	4,881	8,638	11,045	30,725	2,473	33,198	205,227
23. First Central	52	241	3,752	9,721	1,300	2,275	5,104	12,237	0	12,237	74,505
24. Lakeshore-Waseca	0	0	2,399	8,049	1,455	1,819	4,454	9,868	602	10,470	62,744
25. Northwest[1]	52	338	7,592	20,641	2,553	3,640	10,197	24,620	524	25,144	113,919
26. Bloomingdale	0	0	28,965	83,000	7,800	19,194	36,765	103,174	NA	NA	700,000
27. Minnetonka	707	5,021	6,811	21,578	3,424	8,600	10,212	35,199	NA	NA	175,000
28. Brooklyn Center	520	3,947	7,232	25,110	8,793	22,799	16,545	51,856	NA	NA	315,000
29. Aitkin	6	0	1,264	3,265	0	0	1,264	3,265	107	3,372	14,853
30. Brownsdale	0	0	416	746	10	16	426	762	0	762	3,076
31. Pierz	127	721	965	2,550	65	121	1,117	3,394	42	3,436	10,948

[1] System Costs

[2] Centralized registration costs allocated

Table C-1. Summary Data for Individual Sample Libraries: Circulation and Intrasystem Lending (continued)

	Unit Cost		Unit Time (Minutes)	Percent Professional Time	Percent of Budget		Circulation	
	Labor Only	Total			Labor Only	Total Cost	Percent Adult	Percent Non-Print
1. Minneapolis	.30	.31	3.6	3	15	14	90%	5%[3]
2. St. Paul	.21	.21	4.3	1	16	14	N.A.	20
3. Duluth	.11	.15	2.6	2	14	3	N.A.	N.A.
4. Rochester	.11	.12	2.4	0	24	19	65	10
5. Hosmer	.22	.24	4.1	3	31	33	74	N.A.
6. North Regional	.18	.20	3.1	1	29	30	66	N.A.
7. Hamline	.28	.28	4.1	4	33	30	N.A.	N.A.
8. West Duluth	.18	.19	2.7	2	35	26	60	N.A.
9. Columbia Heights	.08	.09	2.7	2	29	19	44	N.A.
10. Grand Rapids	.14	.14	3.2	0	48	34	63	0
11. Red Wing	.26	.27	5.1	22	44	28	66	4
12. Stewartville	.12	.12	2.7	0	23	17	46	7
13. Buhl .12	.12	.12	3.0	0	38	27	63	2
14. Morgan	.14	.14	4.9	0	70	56	26	0
15. Hennepin County Hq.	-	-	-	-	-	-	-	-
16. Anoka County[1]	.09	.10	2.3	4	22	13	62	N.A.
17. Washington County[1]	.19	.21	4.3	10	30	21	55	9
18. Austin-Mower County	.15	.16	4.0	7	26	18	75	6
19. Martin County	.09	.09	2.7	10	23	16	62	2
20. Marshall-Lyon County	.09	.10	3.4	1	16	11	67	3
21. Arrowhead[2]	-	-	-	-	-	-	-	-
22. Great River Regional Hq.	.15	.16	3.2	10	17	14	52	5
23. East Central	.16	.16	4.1	1	14	8	72	5
24. LeSueur-Waseca	.16	.17	4.3	0	21	15	69	6
25. Northwest[1]	.22	.22	5.4	<1	31	22	57	N.A.
26. Southdale	.15	N.A.	3.2	0	27	N.A.	N.A.	N.A.
27. Minnetonka	.20	N.A.	3.5	7	48	N.A.	N.A.	N.A.
28. Brooklyn Center	.16	N.A.	3.2	3	44	N.A.	N.A.	N.A.
29. Aitkin	.22	.23	5.1	3	60	43	71	3
30. Brownsdale	.25	.25	8.3	0	80	80	N.A.	N.A.
31. Pierz	.31	.31	6.1	11	36	37	31	1

[1] System Costs

[2] Centralized registration costs unallocated

[3] Does not include phonorecords and cassettes circulated as regular transactions.

Table C-2. Summary Data for Individual Sample Libraries: Interlibrary Loan

Sample Library	Annual Labor Time and Cost								Non-Labor Cost $	Total Cost $	ILL Volume	Unit Cost		Unit Time Mins.	% Professional Time	% Expenditure	
	Prof.		Non-Prof.		Student		Total Hours	Total $				Labor Only	Total			Labor Only	Total Cost
	Hrs	$	Hrs	$	Hrs	$											
1. Minneapolis[2]	491	3,638	2,242	7,774	500	1,420	3,233	12,837	NA	NA	32,867	.39	NA	5.9	15	<1	<1
2. St. Paul[2]	685	4,242	4,[illegible]	6,043	346	713	5,383	20,998	2,724	23,722	21,289	.99	1.11	15.2	13	3	3
3. Duluth[2]	0	0	3,87[illegible]	17,592	0	0	3,875	17,592	1,604	19,196	12,310	1.43	1.56	18.9	0	6	5
4. Rochester	156	1,004	520	2,298	0	0	676	3,302	312	3,614	1,833	1.80	1.97	22.13	23	2	1
5. Bowmer	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6. North Regional	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7. Hosline	42	330	124	628	0	0	166	958	0	958	NA	NA	NA	NA	25	2	1
8. East Duluth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9. Columbia Heights	0	0	21	52	0	0	21	52	0	52	367	.14	.14	3.4	0	<1	<1
10. Grand Rapids	0	0	13	43	0	0	13	43	52	95	28	1.54	3.39	27.9	0	<1	<1
11. Red Wing	260	1,267	0	0	0	0	260	1,267	81	1,348	1,020	1.24	1.32	15.3	100	2	2
12. Stewartville	78	579	156	595	0	0	234	1,174	23	1,197	1,154	1.02	1.04	12.2	33	11	8
13. Buhl[3]	0	0	78	237	0	0	78	237	648	885	275	.86	3.22	17.0	0	4	10
14. Morgan	0	0	3	5	0	0	3	5	0	5	6	.83	.83	30	0	<1	<1
15. Hennepin County[2]	0	0	2,392	7,[illegible]1	0	0	2,392	7,801	NA	NA	22,628	.34	NA	6.3	0	2	NA
16. Anoka County[1]	0	0	962	3,[illegible]1	0	0	962	3,631	1,203	4,804	4,442	.81	1.08	13.0	0	1	<1
17. Washington County[1]	520	1,704	0	0	0	0	520	1,704	472	2,184	4,545	.38	.48	6.9	100	1	1
18. Austin-Mower County	416	2,031	0	0	104	172	524	2,207	250	2,457	703	2.89	3.15	40.2	79	2	2
19. Martin County[2]	104	618	559	1,520	0	0	663	2,138	0	2,138	207	10.33	10.33	92.2	16	6	4
20. Marshall-Lyon County	0	0	52	114	0	0	52	114	0	114	318	.36	.36	9.8	0	<1	<1
21. Arrowhead[4]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
22. Great River Regional-Bd.[2]	156	935	153	984	0	0	309	1,832	1,087	2,919	698	2.63	4.18	20.6	50	1	1
23. East Central[2]	65	321	832	3,353	0	0	897	3,674	1,204	4,878	1,300	2.83	3.75	41.4	7	4	3
24. Lakeland-Kandiyohi[2]	0	0	208	512	0	0	208	512	0	512	282	1.82	1.82	44.3	0	1	1
25. Northern[1]	0	0	234	648	0	0	234	648	1,237	1,885	1,259	.52	1.50	11.2	0	1	2
26. Southdale	0	0	780	2,282	0	0	780	2,282	NA	NA	NA	NA	NA	NA	0	1	NA
27. Minnetonka	208	1,536	0	0	0	0	208	1,536	NA	NA	NA	NA	NA	NA	100	2	NA
28. Brooklyn Center	94	691	52	287	0	0	146	978	NA	NA	NA	NA	NA	NA	64	1	NA
29. Zumbro	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
30. Brookdale	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
31. Plaza	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

[1] System Costs

[2] ILL by non-system staff for entire system

[3] Service fees to reference activities allocated from Arrowhead

[4] Service fees to reference center allocated to member libraries

Table C-3. Summary Data for Individual Sample Libraries: Bookmobile

Sample Library	Number of Book-mobiles	Annual Labor Time and Cost								Non-Labor Cost[2]	Total Cost[2]	Bookmobile Circulation
		Prof.		Non-Prof.		Student		Total	Total			
		Hours	$	Hours	$	Hours	$	Hours	$	$	$	
1. Minneapolis[1]	2	753	5,357	14,145	63,024	0	0	14,902	68,394	5,265	73,659	139,921
2. St. Paul	2	6	39	7,015	28,154	33	68	7,054	28,261	NA	NA	94,743
3. Duluth	1	274	2,221	5,438	26,663	1,410	2,976	7,122	31,860	NA	NA	93,153
4. Rochester	1	312	2,316	3,900	18,860	0	0	4,212	21,176	1,712	22,888	83,712
5. Hosmer	-	--	--	--	--	--	--	--	--	--	--	--
6. North Regional	-	--	--	--	--	--	--	--	--	--	--	--
7. Hamline	-	--	--	--	--	--	--	--	--	--	--	--
8. West Duluth	-	--	--	--	--	--	--	--	--	--	--	--
9. Columbia Heights	-	--	--	--	--	--	--	--	--	--	--	--
10. Grand Rapids	-	--	--	--	--	--	--	--	--	--	--	--
11. Red Wing	-	--	--	--	--	--	--	--	--	--	--	--
12. Stewartville	-	--	--	--	--	--	--	--	--	--	--	--
13. Buhl	-	--	--	--	--	--	--	--	--	--	--	--
14. Morgan	-	--	--	--	--	--	--	--	--	--	--	--
15. Hennepin County	1	832	7,642	13,177	59,682	0	0	14,009	67,324	NA	NA	133,000
16. Anoka County	1	0	0	2,989	12,714	0	0	2,989	12,714	3,576	16,291	43,301
17. Washington County[1]	1	88	290	4,525	13,773	106	233	4,719	14,296	2,390	16,686	46,175
18. Austin-Mower County	1	0	0	4,780	16,588	0	0	4,780	16,588	1,879	18,467	57,500
19. Martin County	--	--	--	--	--	--	--	--	--	--	--	--
20. Marshall-Lyon County[3]	1	5	36	676	1,568	20	32	701	1,636	NA	NA	7,414
21. Arrowhead	3	0	0	14,820	49,812	0	0	14,820	49,812	12,363	62,175	282,164
22. Great River Regional Hq.[4]	2	853	5,785	12,579	50,436	491	911	13,923	57,132	9,776	66,908[5]	178,832
23. East Central	2	0	0	10,837	28,033	0	0	10,837	28,033	9,134	37,167	73,476
24. LeSueur-Waseca	1	0	0	4,762	12,408	65	82	4,827	12,490	3,490	15,980	40,973
25. Northwest	1	0	0	4,264	16,193	260	484	4,524	16,677	1,723	18,400	36,065
26. Southdale	-	--	--	--	--	--	--	--	--	--	--	--
27. Minnetonka	-	--	--	--	--	--	--	--	--	--	--	--
28. Brooklyn Center	-	--	--	--	--	--	--	--	--	--	--	--
29. Aitkin	-	--	--	--	--	--	--	--	--	--	--	--
30. Brownsdale	-	--	--	--	--	--	--	--	--	--	--	--
31. Pierz	-	--	--	--	--	--	--	--	--	--	--	--

[1]Bookmobiles located at North Regional [2]Excludes depreciation [3]Five-month demonstration project

[4]Excludes St. Cloud city summer bookmobile [5]During 1973 [6]Ten percent of purchase price of bookmobiles purchased after 1963.

Table C-3. Summary Data for Individual Sample Libraries: Bookmobile (continued)

Sample Library	Unit Cost			Unit Time	% Prof.	Percent of Expenditure		Annual[5]	Percent
	Labor Only	Total	Total With Depreciation[6]	Mins.	Time	Labor Only	Total Cost[2]	Miles Traveled	Adult Circulation
1. Minneapolis[1]	.49	.53	NA	6.4	5	5	4	7,241	--
2. St. Paul	.34	NA	NA	4.5	<1	4	NA	NA	NA
3. Duluth	.34	NA	NA	4.6	4	11	NA	NA	NA
4. Rochester	.25	.27	.30	3.0	7	10	8	8,000	28
5. Hibbing	--	--	--	--	-	--	--	--	--
6. North Regional	--	--	--	--	-	--	--	--	--
7. Hamline	--	--	--	--	-	--	--	--	--
8. West Duluth	--	--	--	--	-	--	--	--	--
9. Columbia Heights	--	--	--	--	-	--	--	--	--
10. Grand Rapids	--	--	--	--	-	--	--	--	--
11. Red Wing	--	--	--	--	-	--	--	--	--
12. Stewartville	--	--	--	--	-	--	--	--	--
13. Buhl	--	--	--	--	-	--	--	--	--
14. Morgan	--	--	--	--	-	--	--	--	--
15. Hennepin County	.51	NA	NA	6.3	6	14	NA	20,400	NA
16. Anoka County	.29	.38	.42	4.1	0	5	3	16,500	NA
17. Washington County[1]	.31	.36	.36	6.1	2	10	7	12,000	NA
18. Austin-Mower County	.29	.32	.36	5.0	0	17	13	11,800	NA
19. Martin County	--	--	--	--	-	--	--	--	--
20. Marshall-Lyon County[3]	.22	NA	NA	5.7	1	4	NA	NA	7
21. Arrowhead	.18	.22	.24	3.2	0	45	37	80,445	NA
22. Great River Regional Hq[4]	.32	.375	.41	4.7	6	31	28	53,877	29
23. East Central	.38	.51	.52	8.8	0	31	23	60,000	63
24. LeSueur-Waseca	.27	.34	.38	6.2	0	26	23	16,848	55
25. Northwest	.46	.51	.56	7.5	0	21	15	28,700	NA
26. Southdale	--	--	--	--	-	--	--	--	--
27. Minnetonka	--	--	--	--	-	--	--	--	--
28. Brooklyn Center	--	--	--	--	-	--	--	--	--
29. Aitkin	--	--	--	--	-	--	--	--	--
30. Brownsdale	--	--	--	--	-	--	--	--	--
31. Pierz	--	--	--	--	-	--	--	--	--

[1]Bookmobiles located at North Regional [2]Excludes depreciation [3]Five-month demonstration project
[4]Excludes St. Cloud city summer bookmobile [5]During 1973 [6]Ten percent of purchase price of bookmobiles purchased after 1963.

Table C-4. Summary Data for Individual Sample Libraries: Books-by-Mail

Sample Library	Annual Labor Time and Cost								Non-Labor Cost	Total Cost	Items Circulated	Unit Cost		Unit Time	% Profess. Time	% Expenditure	
	Prof.		Non-Prof.		Student		Total	Total				Labor Only	Total	Mins		Labor Only	Total Cost
	Hours	$	Hours	$	Hrs.	$	Hours	$	$	$							
1. Minneapolis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
2. St. Paul	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
3. Duluth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
4. Rochester	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
5. Hosmer	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
6. North Regional	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
7. Hamline	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
8. West Duluth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
9. Columbia Heights	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
10. Grand Rapids	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
11. Red Wing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
12. Stewartville	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
13. Buhl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
14. Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
15. Hennepin County	0	0	416	1,217	0	0	416	1,217	NA	NA	3,600	.34	NA	6.9	0	4	NA
16. Anoka County	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
17. Washington County	0	0	1,144	3,148	0	0	1,144	3,148	4,000	7,148	10,132	.31	.71	6.8	0	2	3
18. Austin-Mower County	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
19. Martin County	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
20. Marshall-Lyon County	21	150	900	1,855	260	449	1,181	2,454	3,286	5,740	13,765	.18	.42	5.1	2	6	8
21. Arrowhead	0	0	1,629	3,544	0	0	1,629	3,544	12,908	16,452	15,735	.23	1.05	6.2	0	3	10
22. Great River Regional Hq.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
23. East Central	0	0	2,990	5,988	0	0	2,990	5,988	13,516	19,504	32,366	.19	.60	5.5	0	7	12
24. Lesueur-Waseca	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
25. Northwest	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
26. Southdale	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
27. Minnetonka	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
28. Brooklyn Center	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
29. Aitkin	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
30. Brownsdale	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
31. Pierz	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--

Table C-5. Summary Data for Individual Sample Libraries: Reference

Sample Library	Annual Labor Time and Cost								Non-Labor Cost	Total Cost[1]	Questions Received	Unit Cost		Unit Time	% Expenditures	
	Prof.		Non-Prof.		Student		Total	Total				Labor Only	Total		Professional Labor Only	Labor and Total Lib.
	Hours	$	Hours	$	Hours	$	Hours	$	$	$				Min.	%	%
1. Minneapolis[2]	30,439	224,362	23,961	93,626	0	0	54,401	320,329	0	320,329	947,186	.34	.34	3.4	56	21 16
2. St. Paul[2]	6,331	45,739	17,193	83,931	0	0	23,524	129,670	0	129,670	151,765	.85	.87	5.3	27	17 14
3. Duluth[2]	5,804	34,724	7,777	41,060	2,275	3,557	15,856	79,844	3,453	83,301	83,594	.94	.98	11.5	33	28 23
4. Austin	2,351	14,807	1,742	8,432	1,400	2,405	5,208	25,919	0	25,919	37,160	.70	.70	8.4	42	12 5
5. Bemidji	682	4,778	965	4,695	0	0	1,647	9,473	0	9,473	10,335	.92	.92	9.9	42	21 20
6. North Regional	1,642	17,869	1,575	8,452	0	0	3,221	21,335	0	21,335	59,604	.35	.36	3.5	11	14 13
7. Ranier	416	3,300	1,071	5,383	0	0	1,487	8,683	0	8,683	5,055	1.72	1.72	17.6	3	14 12
8. West Duluth	0	0	1,014	5,648	0	0	1,014	5,648	0	5,648	58	NA	NA	NA	0	18 13
9. Columbia Heights	385	2,464	1,011	2,864	42	57	1,471	5,386	0	5,386	10,434	.52	.52	6.2	27	11 8
10. Grand Rapids	0	0	674	2,059	0	0	674	2,059	0	2,059	NA	NA	NA	NA	0	7 5
11. Red Wing	532	3,833	156	642	0	0	720	3,475	0	3,475	12,533	.21	.27	3.6	19	6 4
12. Owatonna	0	0	269	729	0	0	269	729	0	729	673	1.08	1.08	13.2	0	7 5
13. Buhl	0	0	156	473	0	0	156	473	0	473	2,930	.16	.16	1.3	0	8 5
14. Marcus	0	0	58	95	0	0	58	95	0	95	343	.27	.27	11.0	0	4 4
15. Hennepin[3] County	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-- --
16. Anoka County[3]	5,581	29,118	4,504	13,938	0	0	10,085	43,056	0	43,056	28,347	1.51	1.51	11.4	55	16 8
17. Washington[3] County	624	3,333	1,222	4,229	0	0	1,846	7,562	0	7,562	20,600	.37	.37	5.5	44	5 3
18. Austin-Mower Cty	962	4,981	482	1,325	0	0	1,401	6,306	0	6,306	2,962	2.13	2.13	1.13	45	6 4
19. Martin County[2]	418	2,717	1,305	2,485	91	164	1,814	5,381	0	5,381	1,376	3.91	3.91	22.5	28	15 12
20. Rice-Faribault-Steele County	206	1,465	1,115	3,014	201	434	1,522	4,913	0	4,913	14,300	.34	.34	4.8	14	11 7
21. Rochester	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-- --
22. Great River Regional Lib.	2,119	12,439	6	0	0	0	2,125	12,439	0	12,439	NA	NA	NA	NA	100	3 5
23. Polk County	206	1,465	431	1,835	0	0	754	3,300	0	3,300	10,140	.33	.33	4.5	38	4 2
24. Arrowhead Regional	0	0	611	1,539	0	0	611	1,539	0	1,539	7,150	.22	.22	5.1	0	3 2
25. Northome[3]	71	1,017	1,046	3,917	170	209	1,429	5,134	0	5,134	2,656	1.93	1.93	30.2	10	6 4
26. Duluth[3]	21,779	80,000	4,672	26,945	0	0	26,451	111,351	80	111,431	88,000	1.27	1.27	17.7	61	37 26
27. Hutchinson	532	4,778	348	4,736	0	0	2,994	9,514	80	9,594	19,000	.51	.51	6.3	43	11 8
28. Bloomington Center	1,640	7,940	1,812	6,729	0	0	2,452	14,669	80	14,749	36,360	.41	.41	4.1	41	14 10
29. Ely	0	0	140	360	0	0	140	360	0	360	720	.50	.50	12.0	0	7 5
30. Red Lake	0	0	93	93	0	0	93	93	0	93	NA	NA	NA	NA	0	10 10
31. Virginia	0	0	410	540	0	0	21	540	0	540	88	6.14	6.14	4.9	0	14 11

[1] System Costs [2] By Headquarters staff for entire system [3] Allocated to agencies

Table C-6. Summary Data for Individual Sample Libraries: Children's Service

Sample Library	Annual Labor Time and Cost								Non-labor $	Total Cost $	Number Children Served	Unit Cost		Unit Time Min.	% [illegible]	% Expenditures	
	Prof.		Non-Prof.		Student		Total Hours	Total $				Labor Only	Total			Labor Only	Total Cost
	Hours	$	Hours	$	Hours	$											
1. Minneapolis	780	6,810	3,406	17,253	0	0	4,186	24,063	5,000	29,063	NA	NA	NA	NA	19	2	2
2. St. Paul	0	0	4,607	20,142	1,040	2,140	5,647	22,282	0	22,282	4,913	4.54	4.54	68.9	0	3	2
3. Duluth	1,072	9,010	390	1,505	0	0	1,462	10,515	708	11,223	5,245	2.00	2.14	16.2	73	4	3
4. Rochester	1,950	13,073	1,404	13,741	0	0	5,356	26,814	5,489	32,303	9,855	2.96	3.52	35.5	36	12	11
5. Roseau	604	4,237	292	1,220	0	0	896	5,457	105	5,553	2,345	2.32	2.37	22.9	67	12	12
6. North Regional	1,144	8,883	936	3,935	0	0	2,080	11,338	200	11,538	6,013	1.89	1.92	20.8	75	7	7
7. Benson	520	4,177	863	4,286	0	0	1,383	8,463	0	8,463	3,100	2.71	2.71	26.8	31	14	12
8. West Duluth	0	0	1,014	5,646	0	0	1,014	5,646	0	5,646	NA	NA	NA	NA	0	2	2
9. Columbia Heights	0	0	3,777	10,896	317	424	4,087	10,526	2,424	13,050	4,870	.38	.46	8.7	0	25	20
10. Grand Rapids	0	0	156	522	0	0	156	522	0	522	NA	NA	NA	NA	0	2	1
11. Red Wing	1,196	5,436	0	0	728	946	1,924	6,382	228	6,610	2,310	1.70	1.24	21.3	62	13	7
12. Stewartville	0	0	260	744	0	0	260	744	0	744	NA	NA	NA	NA	0	3	5
13. Ruhl	0	0	104	316	0	0	104	316	0	316	1,365	.23	.23	4.5	0	5	4
14. Morgan	0	0	39	49	0	0	39	49	0	49	NA	NA	NA	NA	0	1	1
15. Kandiyohi County[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
16. Anoka County[1]	1,019	5,304	728	1,266	75	111	1,219	6,745	1,181	7,890	7,483	.90	1.05	10.3	16	2	2
17. Washington County[1]	442	3,255	650	1,440	0	0	1,092	4,235	244	4,479	6,164	.66	.72	10.4	62	3	2
18. Austin-Mower County	1,040	5,452	780	2,582	0	0	1,820	8,234	500	8,734	1,179	7.29	7.34	46.7	57	6	6
19. Martin County	156	868	91	386	26	33	273	1,287	36	1,071	385	1.96	1.40	21.7	57	3	2
20. Kandiyohi [illegible]	42	299	1,431	5,781	624	1,047	2,096	7,213	179	7,312	1,566	4.51	4.67	79.7	2	16	11
21. Arrowhead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
22. Great River Regional Fy	910	5,452	468	1,243	0	0	1,378	6,695	166	6,861	92	NA	NA	NA	44	4	3
23. East Central	11	63	211	469	0	0	222	532	442	984	494	1.08	1.99	26.4	5	1	1
24. [illegible][2]	0	0	414	1,046	0	0	414	1,046	261	1,307	2,137	.49	.61	11.7	0	2	2
25. Northwest[1]	0	0	963	2,456	0	0	963	2,456	363	2,819	8,244	.30	.35	7.0	0	3	2
26. [illegible]	1,664	10,186	1,560	8,814	0	0	3,224	19,000	NA	NA	3,000	6.65	NA	64.5	50	40	34
27. [illegible]	779	6,797	83	459	88	218	950	5,663	NA	NA	1,200	6.55	NA	47.5	83	11	9
28. Brooklyn Center	1,618	9,962	195	2,175	26	65	1,829	12,137	NA	NA	1,610	6.41	NA	68.3	72	14	11
29. Airlie	0	0	169	421	0	0	169	421	278	699	289	.65	2.81	68.7	0	8	5
30. Bemidji	0	0	52	93	0	0	52	93	0	93	NA	NA	NA	NA	0	15	10
31. Pierz	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

[1]System route [2]By headquarters staff for system [3]Allocated to agencies

Table C-7. Summary Data for Individual Sample Libraries: Special Services

Sample Library	Annual Labor Time and Cost								Non-Labor Cost	Total Cost	Number Persons Served	Unit Cost		Unit Time	% Prof. Time	% Expendit	
	Prof.		Non-Prof.		Student		Total	Total				Labor Only	Total			Labor Only	Tot Cos
	Hours	$	Hours	$	Hours	$	Hours	$	$	$				Mins			
1. Minneapolis[2]	525	1,796	2,674	12,740	0	0	3,199	14,536	1,900	16,436	NA	NA	NA	NA	16	1	<1
2. St. Paul[3]	96	810	6,569	33,330	1,378	2,836	8,043	36,976	4,330	41,306	NA	NA	NA	NA	1	5	5
3. Duluth	124	1,104	642	2,152	0	0	766	3,256	4,176	7,432	NA	NA	NA	NA	16	1	2
4. Rochester	566	4,852	910	4,536	0	0	1,456	9,388	845	9,433	2,388	3.60	3.96	36.6	38	4	4
5. Mankato	292	2,048	314	1,259	0	0	606	3,307	85	3,392	1,496	2.21	2.27	24.3	48	7	7
6. South Regional	390	3,045	0	0	0	0	390	3,045	NA	3,045	6,903	.49	NA	3.4	100	2	2
7. Hamline	611	4,477	66	156	0	0	677	4,633	0	4,633	2,320	2.00	2.00	17.5	90	5	5
8. West Duluth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9. Columbia Heights	520	3,243	83	281	0	0	603	3,524	595	4,119	2,574	1.37	1.60	14.1	84	8	6
10. Grand Rapids	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11. Red Wing	104	577	0	0	0	0	104	577	1,060	1,637	4,000	.14	.41	1.6	100	1	2
12. Stewartville[4]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
13. Buhl	0	0	78	237	0	0	78	237	0	237					0	4	1
14. Morgan	0	0	26	43	0	0	26	43	0	43	NA	NA	NA	NA	0	2	2
15. Hennepin County	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16. Anoka County[5]	628	3,237	213	957	0	0	837	4,194	807	5,002	1,353	1.25	1.49	15.0	75	2	1
17. Washington County[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18. Austin-Mower County	0	0	0	0	0	0	0	0	3,428	3,428	NA	NA	NA	NA	0	0	2
19. Martin County[7]	156	844	0	0	0	0	156	844	74	918	NA	NA	NA	NA	100	2	2
20. Marshall-Lyon	83	598	0	0	0	0	83	598	75	673	1,333	.45	.56	3.7	100	1	1
21. Arrowhead[8]	0	0	0	0	0	0	0	0	5,452	5,452	NA	NA	NA	NA	NA	0	1
22. Great River Regional Lib.	677	3,981	0	0	0	0	677	3,981	0	3,981	NA	NA	NA	NA	100	2	2
23. East Central[9]	81	433	19	57	0	0	101	490	657	1,147	NA	NA	NA	NA	82	1	1
24. Lake Agassiz Regional[10]	224	671	754	3[illegible]	0	0	268	1,066	2,223	3,289	NA	NA	NA	NA	40	2	3
25. Northwest[11]	0	0	572	921	0	0	572	921	21	942	4,084	.15	.16	5.6	0	1	<1
26. Southeast	416	3,262	0	0	0	0	416	3,262	NA	NA	5,400	.58	NA	4.5	100	1	NA
27. Minnetonka	338	2,401	102	839	307	735	820	4,[illegible]	NA	NA	2,240	1.81	NA	22.0	41	4	NA
28. Brooklyn Center	395	2,232	204	399	0	0	395	2,631	NA	NA	3,360	.78	NA	7.1	74	2	NA
29. Bayard	0	0	22	50	0	0	22	50	0	50	NA	NA	NA	NA	0	1	1
30. Bonnerdale	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
31. Plano	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

[illegible] points

[2] Headquarters staff for system

[3] Branch librarians allocated to branches. No figure includes branch [illegible] under work.

[4] All volunteer

[5] Allocated to branches

[6] Included in public relations

[7] Photocopy and picture rental expenses

[8] Service fees for operation of 2 libraries and 8 reading centers

Table C-8. Summary Data for Individual Sample Libraries: Collection Development and Maintenance

Sample Library	Annual Labor Time and Cost								Non-Labor Cost			Total Cost
	Prof.		Non-Prof.		Student		Total	Total	Materials	Other	Total	
	Hours	$	Hours	$	Hours	$	Hours	$	$	$	$	$
1. Minneapolis	11,925	95,566	15,512	61,503	260	740	27,697	157,809	390,124[2]	1,362	391,486	542,657
2. St. Paul	2,499	20,795	5,430	25,689	0	0	7,929	46,484	75,245	456	75,701	122,185
3. Duluth	410	3,390	1,849	8,150	68	25	2,327	11,565	38,910	0	38,910	50,475
4. Rochester	1,534	11,491	3,146	11,726	0	0	4,680	23,217	47,944	2,127	50,071	73,288
5. Hoamer	188	2,119	865	3,721	0	0	1,053	5,840	10,501[3]	132	10,633	16,473
6. North Regional	1,963	15,007	4,210	19,263	0	0	6,173	34,270	77,673[4]	475	78,148	112,418
7. Hamline	471	3,840	676	3,232	0	0	1,147	7,072	8,030	48	8,078	15,150
8. West Duluth	97	803	542	6,607	16	6	655	3,416	10,732	0	10,732	14,418
9. Columbia Heights	395	2,464	52	130	0	0	447	2,595	17,216	2	17,218	19,813
10. Grand Rapids	0	0	884	3,190	0	0	884	3,190	9,797	0	9,797	12,987
11. Red Wing	988	5,185	208	697	0	0	1,196	5,882	26,212	276	26,488	32,370
12. Stewartville	234	1,737	0	0	0	0	234	1,737	2,523	NA	2,523	4,260
13. Buhl	0	0	353	1,089	0	0	353	1,089	1,741	166	1,907	2,996
14. Morgan	0	0	40	66	0	0	40	66	474	0	474	540
15. Hennepin County	--	--	--	--	--	--	--	--	--	--	--	--
16. Anoka County[1]	4,403	24,458	4,030	14,453	0	0	8,433	38,911	190,995	220	191,215	230,126
17. Washington County[1]	1,404	5,569	2,652	10,902	0	0	4,056	16,471	62,784	200	62,984	79,455
18. Austin	2,080	13,176	156	831	0	0	2,236	14,007	32,386	750	33,136	47,143
19. Martin County	412	2,556	367	1,048	43	77	823	3,681	12,735	11	12,746	16,427
20. Marshall-Lyon	230	1,650	323	1,078	179	310	732	3,038	12,078	76	12,154	15,192
21. Arrowhead	0	0	582	1,682	0	0	582	1,682	47,909	0	47,909	49,591
22. Great River Regional Hq.	845	5,781	445	1,615	40	68	1,330	7,464	28,630	42	28,672	36,136
23. East Central	161	856	1,048	2,476	0	0	1,209	3,332	17,716	103	17,819	21,151
24. LeSueur-Waseca	218	1,399	359	932	0	0	577	2,331	7,668	427	8,095	10,426
25. Northwest[1]	754	4,898	676	1,881	0	0	1,430	6,779	31,606	83	31,689	38,468
26. Southdale	5,684	37,380	6,323	25,523	0	0	12,012	62,903	NA	NA	NA	NA
27. Minnetonka	395	2,506	1,087	4,720	0	0	1,482	7,226	NA	NA	NA	NA
28. Brooklyn Center	863	5,187	2,615	10,535	0	0	3,478	15,722	NA	NA	NA	NA
29. Aitkin	15	82	100	236	0	0	115	318	1,742	10	1,752	2,070
30. Brownsdale	Included in Austin (Brownsdale maintains small rotating collection)											
31. Piers	--	--	--	--	--	--	--	--	--	--	--	--

[1]System Data

[2]Approximately 1.5% of 1973 material expenditures for entire system

[3]Approx. 57% of 1973 materials expenditures for entire system

[4]Approx. 11.3% of 1973 materials expenditures for entire system

Table C-8. Summary Data for Individual Sample Libraries: Collection Development and Maintenance (Continued)

Sample Library	Titles Added Plus Volumes Withdrawn	Unit Cost Labor Only	Unit Cost Total Exc.Mats.	Unit Time Mins.	% Prof. Time	% of Expenditures Labor Only	% of Expenditures Total Cost	Percent of Materials Cost for Non-Print
1. Minneapolis	60,903	2.59	2.61	27.3	43	10	9	NA
2. St. Paul	32,317	1.44	1.68	14.7	32	6	14	15
3. Duluth	9,407	1.23	1.23	14.8	18	4	14	7
4. Rochester	8,178	2.84	3.10	34.3	33	11	24	18
5. Hosmer	5,211	1.12	1.15	12.1	18	13	13	NA
6. North Regional	20,804	1.65	1.67	17.8	32	22	21	NA
7. Hamline	7,694	.92	.93	8.9	41	11	21	3
8. West Duluth	2,228	1.53	1.53	17.6	15	11	33	0
9. Columbia Heights	4,579	.57	.57	5.9	88	6	31	8
10. Grand Rapids	2,020	1.58	1.58	26.3	0	11	31	0
11. Red Wing	10,981	.54	.56	6.5	83	11	37	4
12. Stewartville	899	1.93	1.93	15.6	100	16	30	5
13. Buhl	847	1.29	1.48	25.0	0	18	33	3
14. Morgan	71	.93	.93	33.8	0	3	20	0
15. Hennepin County	--	--	--	--	--	--	--	11[1]
16. Anoka County[1]	16,790	2.32	2.33	30.1	52	14	42	6
17. Washington County[1]	6,770	2.43	2.46	35.9	35	12	35	5
18. Austin-Mower County	7,930	1.77	1.86	16.9	93	15	33	9
19. Martin County	2,253	1.63	1.64	21.9	50	10	31	7[1]
20. Marshall-Lyon	3,215	.94	.97	13.7	31	7	22	5
21. Arrowhead	3,240	.52	.52	10.8	0	2	70	6
22. Great River Regional Lib.	4,149	1.80	1.81	19.2	64	4	15	9
23. East Central	3,748	.89	.92	19.4	13	4	13	11[1]
24. Indianhead	1,433	1.63	1.92	24.2	38	15	15	10
25. Northwest[1]	8,300	.82	.83	10.3	53	9	33	9
26. Southside	17,700	3.55	NA	40.7	47	16	NA	NA
27. Minnetonka	2,360	3.06	NA	37.7	27	10	NA	NA
28. Brooklyn Center	5,300	2.97	NA	39.3	25	13	NA	NA
29. Aitkin	352	.89	.92	19.3	13	6	27	NA
30. Brownsdale	Included in Austin (Brownsdale maintains small rotating collection)							
31. Pierz	--	--	--	--	--	--	--	--

[1]System Costs

[2]Approximately 1.5% of 1973 material expenditures for entire system

[3]Approx. 17% of 1973 materials expenditures for entire system

[4]Approx. 11.3% of 1973 materials expenditures for entire system

Table C-9. Summary Data for Individual Sample Libraries: Technical Processing

Sample Library	Annual Labor Time and Cost								Non-Labor Cost	Total Cost
	Prof.		Non-Prof.		Student		Total	Total		
	Hours	$	Hours	$	Hours	$	Hours	$	$	$
1. Minneapolis[1]	10,281	74,958	60,570	231,569	0	0	70,851	306,527	25,374	331,901
2. St. Paul[1]	1,113	10,038	13,298	60,090	915	1,883	15,326	72,011	2,929	74,940
3. Duluth[1]	185	1,323	3,440	17,440	322	557	3,947	19,320	2,680	22,000
4. Rochester	208	1,610	6,086	18,229	520	708	6,812	20,047	3,421	23,468
5. Hopper	136	989	1,024	4,450	0	0	1,160	5,439	683	6,122
6. North Regional	1,003	7,319	7,196	26,398	0	0	8,199	33,717	5,052	38,769
7. Hamline	62	622	1,290	6,588	0	0	1,352	7,210	308	7,518
8. West Duluth	44	313	1,335	6,512	76	132	1,455	6,957	635	1,455
9. Columbia Heights	104	649	905	2,770	208	285	1,217	3,703	780	4,484
10. Grand Rapids	0	0	1,950	6,046	0	0	1,950	6,046	1,553	7,599
11. Red Wing	260	1,267	1,248	2,892	503	671	2,011	4,830	932	5,762
12. Stewartville	Contract with Rochester							1,305		1,525[2]
13. Buhl	0	0	260	542	0	0	260	542	92	634
14. Morgan	0	0	60	98	0	0	60	98	0	98
15. Hennepin County[3]	--	--	--	--	--	--	--	--	--	--
16. Anoka County[1]	2,080	11,764	11,019	34,655	1,492	1,907	14,591	48,327	9,464	57,791
17. Washington County[1]	0	0	3,926	13,662	1,560	2,686	5,486	16,350	4,650	21,000
18. Austin-Mower County	0	0	2,704	11,794	0	0	2,704	11,794	2,290	14,084
19. Martin County[1]	446	2,269	1,510	4,506	77	120	2,033	6,895	605	7,500
20. Marshall-Lyon	172	1,238	1,256	2,533	574	877	2,002	4,648	778	5,426
21. Arrowhead[1]	0	0	2,471	8,580	0	0	2,471	8,580	2,972	11,552
22. Great River Regional Hq.[1]	1,330	9,205	2,495	7,327	59	100	3,883	16,632	1,292	17,924
23. East Central[1]	72	342	2,003	5,174	0	0	2,075	5,516	454	5,970
24. Lebanon-Watonwan[1]	193	1,251	1,636	4,064	0	0	1,829	5,315	853	6,168
25. Northwest[1]	520	3,378	2,548	7,063	0	0	3,068	10,440	1,637	12,077
26. Southdale	0	0	6,916	26,458	0	0	6,916	26,458	NA	NA
27. Minnetonka	0	0	952	3,662	260	640	1,212	4,302	NA	NA
28. Brooklyn Center	0	0	2,080	8,122	333	819	2,413	8,941	NA	NA
29. Atkin	7	33	347	881	0	0	354	914	43	957
30. Brownsdale	Included in Austin (Brownsdale maintains small rotating collection)									
31. Piera	--	--	--	--	--	--	--	--	--	--

[1]System costs

[2]Computed by applying Rochester unit cost to number processed

[3]Indirect costs allocated to central and branches

[4]Allocated to agencies

[5]Processing for one member library allocated

Table C-9. Summary Data for Individual Sample Libraries: Technical Processing (Continued)

Sample Library	Volumes Processed	Unit Cost		Unit Time Mins.	% Prof. Time	% of Expenditures	
		Labor Only	Total			Labor Only	Total Cost
1. Minneapolis[1]	115,042	2.66	2.86	36.9	14	20	19
2. St. Paul[1]	35,986	2.00	2.08	25.6	7	9	8
3. Duluth[1]	12,620	1.53	1.74	18.8	5	7	6
4. Rochester	12,078	1.66	1.94	33.8	3	9	8
5. Hoover	2,577	2.11	2.38	27	12	12	13
6. North Regional	19,338	1.74	2.00	25.4	12	21	23
7. Bayline	3,940	1.83	1.91	20.6	5	12	11
8. West Duluth	7,592	2.33	2.54	29.2	3	23	18
9. Columbia Heights	5,262	.70	.85	13.9	8	9	7
10. Grand Rapids	3,879	1.56	1.96	30.2	0	20	18
11. Red Wing	8,360	.58	.69	14.4	13	9	6
12. Stewartville	786	--	1.94	--	--	12	11
13. Buhl	1,407	.39	.45	12.1	0	9	7
14. Morgan	215	.46	.46	16.7	0	5	4
15. Hennepin County[4]	--	--	--	--	--	--	--
16. Anoka County[1]	43,857	1.10	1.32	20.0	14	17	11
17. Washington County[1]	15,325	1.07	1.37	21.5	0	12	9
18. Austin-Mower County	8,932	1.32	1.58	18.2	0	12	10
19. Martin County[1]	6,904	1.00	1.09	17.7	22	19	14
20. Marshall-Lyon	5,676	.82	.96	21.2	9	11	8
21. Arrowhead[5]	8,569	1.00	1.34	17.3	0	8	7
22. Great River Regional Hq.[1]	6,471	2.57	2.77	36.0	34	9	7
23. East Central[1]	4,936	1.11	1.20	25.0	3	6	4
24. [illegible][1]	5,197	1.02	1.19	21.1	11	11	9
25. Northwest[1]	14,739	.71	.82	12.5	17	13	10
26. [illegible]	37,060	.71	NA	11.1	0	7	NA
27. Minnetonka	5,440	.79	NA	13.4	0	6	NA
28. Brooklyn Center	11,058	.81	NA	13.1	0	8	NA
29. [illegible]	475	1.92	2.01	44.7	1	17	12
30. Brownsdale	Included in Austin (Brownsdale maintains small rotating collection)						
31. Pierz	--	--	--	--	--	--	--

[illegible] costs [2]Computed by applying Rochester unit cost to number processed
[3]Indirect costs allocated to central and branches [4]Allocated to agencies
[5]Processing for one member library allocated

Table C-10. Summary Data for Individual Sample Libraries: Public Relations

Sample Library	Annual Labor Time and Cost								Non-labor Cost	Total Cost	%	% of Expenditures	
	Prof.		Non-Prof.		Student		Total	Total					
	Hours	$	Hours	$	Hour	$	Hours	$	$	$	Profess. Time	Labor Only	Total Cost
1. Minneapolis[1]	NA	NA	7,313	34,777	0	0	7,313	34,777	NA	NA	NA	2	2
2. St. Paul[2]	2,697	10,413	7,620	36,289	1,040	2,140	11,357	58,842	107	58,949	24	8	7
3. Duluth[2]	864	9,171	0	0	0	0	864	9,171	4,252	13,423	100	3	4
4. Rochester	0	0	416	2,073	0	0	416	2,073	876	2,949	0	1	1
5. Bosmer	--	--	--	--	--	--	--	--	--	--	--	-	-
6. North Regional	--	--	--	--	--	--	--	--	--	--	--	-	-
7. Hamline[2]	208	1,651	0	0	0	0	208	1,651	0	1,651	100	3	2
8. West Duluth	0	0	182	1,084	0	0	182	1,084	0	1,084	0	4	3
9. Columbia Heights	42	259	0	0	0	0	42	259	0	259	100	1	<1
10. Grand Rapids	--	--	--	--	--	--	--	--	--	--	--	-	-
11. Red Wing	52	324	104	295	0	0	156	619	730	1,349	33	1	2
12. Stewartville	156	1,158	0	0	0	0	156	1,158	--	1,158	100	11	8
13. Buhl	0	0	26	79	0	0	26	79	0	79	0	1	1
14. Morgan	0	0	26	43	0	0	26	43	0	43	0	2	2
15. Hennepin County[2]	0	0	6,240	28,254	1,040	3,043	8,280	31,297	NA	NA	0	6	NA
16. Anoka County[2]	726	3,691	213	957	0	0	941	4,648	1,387	6,035	77	2	1
17. Washington County[2]	208	1,153	173	614	0	0	381	1,767	925	2,692	55	1	1
18. Austin-Mower County	208	1,626	312	793	0	0	520	2,419	100	2,519	40	3	2
19. Martin County[2]	156	1,009	104	319	0	0	260	1,328	0	1,328	60	4	3
20. Marshall-Lyon	208	1,495	26	151	0	0	234	1,646	142	1,788	89	4	3
21. Arrowhead	381	3,560	208	838	0	0	589	4,398	0	4,398	65	4	3
22. Great River Regional Hq.[2]	372	2,231	234	910	0	0	606	3,141	541	3,682	61	2	2
23. Pine Centers[2]	394	2,380	498	1,362	0	0	892	3,742	1,183	4,925	44	4	3
24. Lake-to-Lake	156	1,008	468	1,030	0	0	624	2,038	672	2,710	25	4	4
25. Southwest[2]	78	507	572	1,404	0	0	650	1,911	332	2,242	12	2	2
26. Southdale	260	2,202	0	0	0	0	260	2,202	NA	NA	100	1	NA
27. Ridgedale	114	769	0	0	0	0	114	769	NA	NA	100	1	NA
28. Brooklyn Center	104	716	52	200	0	0	156	956	NA	NA	67	1	NA
29. Aitkin	--	--	--	--	--	--	--	--	--	--	--	-	-
30. Brownsdale[2]	--	--	--	--	--	--	--	--	--	--	--	-	-
31. Pierz	--	--	--	--	--	--	--	--	--	--	--	-	-

[1]System costs.

[2]PR by headquarters staff for entire system.

Table C-11. Summary Data for Individual Sample Libraries: Administration

Sample Library	Annual Labor Time and Cost								Non-Labor Cost[4]	Total	% Prof. Time	% Expendi	
	Prof.		Non-Prof.		Student		Total Hours	Total $	$	$		Labor Only	Tot Cos
	Hours	$	Hours	$	Hours	$							
1. Minneapolis[3]	22,740	248,710	20,513	93,072	0	0	43,253	341,782	211,513	553,295	53	23	31
2. St. Paul[3]	12,468	137,304	18,602	76,717	2,340	4,815	33,410	218,836	55,269	274,105	37	29	30
3. Duluth[3]	2,119	22,439	9,478	51,040	0	0	11,597	73,479	14,627	88,106	18	26	24
4. Rochester	2,236	20,794	2,340	10,282	0	0	4,576	31,076	17,458	48,534	49	15	16
5. Hoaner	176	1,228	98	407	0	0	274	1,635	NA	NA	64	4	NA
6. North Regional	585	5,108	598	3,025	0	0	1,183	8,133	NA	NA	49	5	NA
7. Hanline	270	2,146	101	432	0	0	371	2,578	NA	NA	73	4	NA
8. West Duluth	0	0	364	2,269	0	0	364	2,269	NA	NA	0	7	NA
9. Columbia Heights	520	3,243	182	296	0	0	702	3,539	1,583	5,122	74	8	9
10. Grand Rapids	0	0	962	3,576	0	0	962	3,576	1,321	4,897	0	12	12
11. Red Wing	1,144	6,906	208	697	0	0	1,352	7,603	3,279	10,882	85	14	12
12. Stewartville	182	1,351	0	0	0	0	182	1,351	771	2,122	100	13	16
13. Buhl	0	0	234	710	0	0	234	710	173	883	0	12	10
14. Morgan	0	0	153	251	0	0	153	251	71	322	0	11	12
15. Hennepin County[2]	16,848	179,034	43,680	200,217	0	0	60,528	379,251	NA	NA	28	78	NA
16. Anoka County[1]	4,576	34,688	5,366	19,609	0	0	9,942	54,278	44,600	98,878	46	20	18
17. Washington County[1]	4,264	2,867	1,664	5,249	0	0	5,928	33,919	2,625	36,544	72	24	16
18. Austin-Mower County	832	6,505	520	1,886	0	0	1,352	8,391	5,957	14,348	62	10	10
19. Martin County[3]	520	3,915	780	2,153	52	65	1,352	6,133	3,530	9,663	38	17	18
20. Marshall-Lyon	873	6,279	1,950	4,849	0	0	2,824	11,123	6,739	17,867	31	25	26
21. Arrowhead	3,432	32,041	2,652	10,326	0	0	6,084	42,367	17,158	59,525	56	38	10
22. Great River Regional Hq.[3]	3,484	30,571	2,329	12,878	312	500	6,123	43,949	14,270	58,219	57	24	24
23. East Central[3]	2,714	14,743	2,647	7,471	0	0	5,361	22,214	25,771	47,985	50	25	30
24. Lakeland[2]	884	5,714	2,080	5,236	0	0	2,964	10,950	6,446	17,396	30	23	25
25. Northome[3]	520	3,118	1,823	5,880	0	0	2,340	9,258	1,735	10,992	22	12	10
26. Southside	4,264	32,894	7,150	24,242	0	0	11,414	57,136	NA	NA	37	15	NA
27. Nokomis	456	3,312	732	2,806	218	538	1,388	6,486	NA	NA	33	9	NA
28. Brooklyn Center	624	4,798	884	3,586	0	0	1,508	8,384	NA	NA	41	7	NA
29. Aitkin	0	7	32	80	0	0	32	80	147	227	0	1	3
30. Brownsdale	--	--	--	--	--	--	--	--	--	--	--	--	--
31. Pierz	--	--	--	--	--	--	--	--	--	--	--	--	--

[1]System office. [3]Administration by headquarters staff for entire system.

[4]Non-labor cost for system headquarters are for entire system.

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December 2, 1974

Virgil F. Massman
Executive Director
James Jerome Hill Reference Library
Fourth Street at Market Street
Saint Paul, Minnesota

Dear Mr. Massman:

Our responses to the Public Library Study Advisory Committee's question are enclosed. They perhaps should be accompanied by the further disclaimer that all comments on the sources of variation in costs are highly speculative, and must be considered in that light. Based on the data gathered, no useful models for planning purposes could be identified.

We will follow with interest further responses to the study and action based on its recommendations. If we can be of any additional help, please feel free to contact us.

Sincerely,

Nancy K. Roderer

cc: Al Lewis

RESPONSE TO ADVISORY COMMITTEE QUESTIONS

(1) The idea of networks of services is a good one. Would you elaborate a bit on how you would apply that in the context of local, regional, and state relationships?

There is a tendency in the literature on networks to speak of "statewide," "total," and other broad terms implying the grouping of all libraries into a single network. The Minnesota Long Range Plan suggests such a statewide system in the future. Experience shows that the most successful networks are developed around specific services rather than concentrating on putting together different kinds of libraries.

The most important network components are the service providers -- ILL, reference, a-v, shared catalog data, etc. Unless the libraries in a network are all of similar capability in providing services, the members will be made up of net-receivers and net-contributors. In most situations the idea of a balanced network is not realistic. Therefore, the network must consider how to reimburse the net-contributors. At the present time, reimbursement from a level higher than individual network members appears to be most feasible.

Based on needs and available resources, the level in a hierarchical network should be chosen to provide services in a cost-effective manner. Minnesota's MINITEX network offers a good example. Channels have been established for requests to go from local libraries to some designated library in the region and then onto the state level (University of Minnesota).

Some individuals in Minnesota expressed interest in bringing in the academic with the public libraries in a "statewide" system. Unless the need and resources are such that all members benefit to some perceived degree, the configuration will only look good on paper. This is not to say that in a couple (or more) of the regions, certain academics might provide certain specified services (probably for a fee).

(2) Would you comment on the unit labor costs as these relate to unit times as shown on page C-4?

Three groupings of libraries are of potential interest in discussing unit labor costs and times for circulation. These include municipal, county, and regional libraries; MELSA and non-MELSA libraries; and a grouping based on circulation volume. Results of weighted unit cost calculations for each area are presented in Table 1.

We previously observed that grouping the sample libraries by type indicated that the average unit cost was lowest for municipal libraries, somewhat greater for county libraries and highest for regional libraries. Looking at unit times, however, unit times are very similar for county and regional libraries (5.5 and 5.3 minutes) while the municipal library average is significantly lower (3.5). The low unit time in municipal libraries could be the result of additional duties available for circulation staff members which would reduce their non-productive time at the circulation desk. The higher cost per circulation minute in regional libraries cannot be explained by a greater percentage of professional staff time, but could possibly be a result of less page-level employees in the regional libraries.

The average limit cost for MELSA libraries is greater than that for non-MELSA libraries. This can be attributed to a higher cost per minute - and presumably to a higher salary scale - rather than to a greater unit time. Unit time in MELSA libraries in fact is somewhat less than in non-MELSA libraries presumably due to larger circulation volumes.

Categorizing the sample libraries by level of circulation volume, we might expect to find that unit times and also unit costs would decrease as the volume of circulation increased. For the first two categories of less than 100,000 circulations and

Table 1. Circulation Unit Costs and Times

Library Groups	Number of Sample Libraries	Weighted Unit Cost	Weighted Unit Time	Cost/Minute
All libraries	29	$.18	4.2	$.04
Municipal libraries	14	.15	3.5	.04
County libraries	9	.19	5.5	.04
Regional libraries	6	.25	5.3	.05
MELSA libraries	10	.20	3.7	.05
non-MELSA libraries	19	.17	4.4	.04
circulation volume <100,000	14	.18	4.5	.04
circulation volume 100,000-499,999*	9*	.16	3.2	.05
circulation volume >500,000*	3*	.22	3.7	.06

*excludes systems data (libraries 16, 17 and 25)

100,000 to 499,999 circulations, this is the case and the unit time drops significantly from the first to the second group. The cost per minute is greater in the larger libraries, however, so that the decrease in unit cost is not as marked as the decrease in time. Only 3 libraries in the sample circulated 500,000 or more items, but the indication is that both unit time and unit costs increase for this part of the sample. Thus the data seems to support a hypothesis that, as volume increases, unit time first decreases and then begins to increase after a certain volume is reached.

All of the above "ruminations" might be summarized by stating that two factors affect differences in circulation unit cost - unit time and cost per minute. Unit time appears to be most closely related to individual library circulation volume as noted in the preceding paragraph, and cost per minute appears to increase with circulation volume.

(3) Would you comment on the reasons for the differences in collection development and maintenance costs on pages C-12 and C-13?

The major sources of variation in the unit cost shown for collection development and maintenance is the diversity of processes covered by the description of that activity. Included here are selection, acquisition, and weeding, activities clearly receiving different levels of emphasis in each of the libraries as well as varying form library to library.

Procedures for materials selection were especially varied, particularly in the number and level of personnel involved. Within a given library, several types of procedures were utilized for various types of materials.

Acquisition procedures also differed somewhat from library to library, partially based on the volume of materials ordered. We speculate that the unit cost of acquisitions above is highest for libraries at the extremes -- ordering very few or very many volumes -- and lowest in the central ranges.

Related to the diversity of activities performed is the difficulty of identifying a meaningful unit for the determination of unit collection development and maintenance costs. Our choice, titles selected plus volumes weeded reflects the premise that the bulk of the effort expended on selection and acquisition is on a title by title basis, and that weeding is a process involving individual volumes. Two problems arose in the identification of this number:

1. Title figures were not usually available and estimates then had to be made.

2. The identification of number of titles for a sample library within a system sometimes had to be estimated.

For a system, a title count will depend upon whether the context is the entire system or a single branch.

Based on the above, we suggest that the variation in unit cd&r costs is due both to the diverse processes involved and to difficulties involved in determining the volume of activity. While some speculating might be done based on knowledge of procedures within individual libraries, the ultimate explanation of variation would require further breakdown of the collection development and replacement activity.

Given our comments on "networks of services," we wonder if book selection is one task which might be approached as a service provided on a cooperative basis. "Pathfinders" in reference service are becoming more and more popular; could this approach be applied to collection development on a cooperative basis? Cooperative selection should be more than just an exchange of reviews, but might be applied to improving specific problem areas within individual library collections. A cooperative selection approach would be especially useful in the area of audiovisual media, given increasing public demands for these media throughout the state.

(4) Would you comment on the "unique services and costs associated with Minneapolis and St. Paul Public Libraries" which you mention on page 3-31? What if any implications do the demographic characteristics or the consituency of a library have upon operating costs? This would also be related to the concept of resource libraries.

First, it should be made clear again that data collection and analysis for this study was not aimed at explaining the differences among individual library costs. What follows is speculative because of this, and also because library systems were not a target of the survey.

In the context of industrial production, there exists the concept of "economies of scale." That is, as the desired rate of output from a process increases, certain economies can be introduced into the process -- more efficient management, bulk purchase of raw materials, cost-effective allocation of resources, more efficient scheduling, etc. -- which can result in a lower unit cost of production.

This might lead one to wonder why, as stated on page 3-31, the Minneapolis/St. Paul unit cost for circulation is higher than other METSA and outstate libraries. After all, if the service volume for these two libraries is so large when compared with other libraries, why haven't "economies of scale" come into play?

The most obvious explanation of cost differences is salary. Minneapolis/St. Paul do tend to pay higher salaries than many other libraries in the state. Given the lack of extreme variation among the unit times for circulation given in Table C-1 on page C-4, this preliminary conclusion -- that cost differences are due to salary differences -- appears attractive, but may be premature. Other factors may also intervene.

Allocation of staff levels is another possibility. Higher level personnel are paid more, as a rule, than lower level staff members. The only real indicator of this is the "professional - non-professional - student" breakdown. Remembering, however, that some out-state professionals may very well be paid at the same rate as Minneapolis/St. Paul upper-level non-professionals, this is not a meaningful indicator. In other words, a higher percent of professional time devoted to circulation does not automatically imply a higher unit cost for circulation. Neither does a high level of professional time automatically imply a lower unit time.

Technology is a possibility for explaining differences. Minneapolis and St. Paul both incorporate data processing equipment into circulation management. However, there is generally such a little difference between labor-only unit costs and total unit costs that technology considerations appear to be inconsequential in explaining unit cost differences.

An interesting possibility which was not considered in the study was physical size and its relationship to unit costs. Minneapolis and St. Paul are both physically large establishments, and more departmentalized than the other libraries in the study. Widely dispersed reserve operations, shelving and other circulation operations which may require a great deal of walking or movement of materials are possible contributions to higher unit costs, but this should remain speculative.

A final internal consideration might be related to staff size; that is, as sub-unit and departmental size increase at a given rate, the number of personnel assigned to supervisory or managerial positions without direct contact with a process tends to increase at a higher rate. Because of our guidelines for

assigning administrative, managerial, and supervisory time (page 3-13), circulation department supervisors would have been included in circulation. Our data does not allow a test of this hypothesis, however.

Regarding the influence of "demographic characteristics" an operating cost: to adequately answer this question would require a measurement of the relationship between demographic characteristics and "level of demand," and the relationship between "level of demand" and cost of service.

Level of demand might be measured on the most basic terms by volume statistics: number of reference questions asked, number of books circulated, number of children attending story hours, etc. (Note: these statistics would give no indication of "satisfaction" with services.) Relating this to the cost of services is not straight-forward. Our analysis did not show a significant predictive relationship between service volume and cost of service. Providing a link between demographic characteristics and demand, then, and subsequently a predictive relationship between demand and cost does not appear to be possible.

Beyond volume as a measure of demand would be some measure of the kind of demand. One might say that higher educated, more affluent individuals make more demands of a higher "quality" on library service, so that service to the more sophisticated citizen would necessarily cost more.

Anyone who was involved in developing programs for special services to minority groups, special media services for children or outreach programs for migrant workers and others "lower" on the socio-economic scale would immediately see the folly of this. Any demand upon the library which goes beyond

the stereotyped public expectations of recreational reading, study hall, and general reference, if acted upon by library management, will result in higher costs than might be incurred otherwise. The relationship between demographic characteristics and costs of library services, then, is certainly not predictive, but is contingent upon three factors:

1. The ability of a special "demographic" group to articulate its own, specialized needs to library management.

2. The decision-making criteria of library management as to which demands will be satisfied by the library.

3. The resources available to management to actualize its and the community's goals and needs.

We hope that these above comments will be useful to you.

Westat, Inc.
December, 1974